"Bradshawe" Lecture

ON THE

PATHOLOGY OF CANCER.

DELIVERED AT THE

ROYAL COLLEGE OF SURGEONS,

On Thursday, Dec. 4th, 1884,

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"WHAT'S in a name?" Not very much, perhaps, in the sense in which Shakespeare puts the question into the mouth of Juliet. No great danger, probably, or source of error, when the matter under consideration is as simple and clear as the odour of a rose; but it is surely otherwise when ideas involving far larger and more complex issues come to be expressed by a single term. It is often said, and indeed with truth, that for one's self it is no matter what you call a thing so long as you understand the subject or nature of it; but this always signifies very much to others who may not so clearly comprehend it. It would be easy enough to illustrate the tyranny of phrases in the study of pathology and in the practice of surgery; for here the power of words for mischief is sometimes seen in a twofold aspect. Not only in the perpetuation of error, but in the maintenance of confusion too. Certain terms and titles have not only given the stamp of currency to false doctrines, but by the changes they are prone to undergo, and have undergone in their meaning, they signify different things at different times, and at the same time different things to different persons. I say it would not be very difficult to find abundant illustrations of these remarks, but I will take now only the one that is to be found in the terms "local" and "constitutional." In a general sense, perhaps, these are sufficiently intelligible, as when we speak of constitutional disturbance from local disease. When neither the patient nor the surgeon can detect any evidence of mischief, except in a limited portion of the body, such affection may very well be termed local. When the patient is conscious, or the surgeon can discover, that the functions in general are disturbed, the condition is very fairly expressed by the term constitutional. But when these same terms, local and constitutional, are employed more definitely, and in relation not to phenomena merely, but to the nature and origin of disease, difficulties soon appear which lead to error and confusion. The oldest, the largest, the plainest, and most popular division of tumours is into innocent and malignant growths; and, although it has always been easy to show that these two great classes often approach very closely, and even pass into each other, still, in the main, the several broad and well-defined lines of demarcation have been sufficiently obvious. Not only surgeons, but the public, have come to understand the great point of distinction. The crucial question is continually asked, if the tumour is removed, Will it come again? But then, of course, to those who think on these things, the further question inevitably rises, Why are tumours in their nature and history thus different? Whence the cause of such a contrast? What does it mean? And these deeper questions have been replied to, over and over again, by the phrases local and constitutional. The innocent tumour is a purely local one. There is no extension, save by the growth of the sensible mass. Its substance and whole influence lie within a small space of the body, which can be clearly defined. To this place it is strictly limited, and if it be removed from this, it is gone for ever; but of the malignant tumours none of these conditions can be affirmed. Whatever may be true, at any given time, of the sensible mass, the existence of the disease is not so limited; and thus, in contrast to innocent ones, malignant tumours have been called constitutional. But then, when the inquiry is carried further, and some explanation of constitutional, in this sense, is demanded, when it is asked in what way the word constitutional advances our knowledge beyond the term malignant, it must be confessed that the answer is not altogether a satisfactory one.

Many of us can remember the celebrated discussion on cancer at the Pathological Society, and the fact that seems to stand out in it most clearly is, that then, as usual, the term constitutional was employed by different speakers in widely different senses. And, moreover, I think it might be shown that the different ideas which different speakers associated with the term constitutional were mainly due to the relative importance which each speaker respectively attached to certain features of malignant tumours. Of cancer, it was at the outset affirmed that the all but certainty of its recurrence, remove it as we will, its hereditability, its frequent association with other forms of irregular growth, its often rapid diffusion, its power of infecting the system—all, in fact, that we see in the life of cancer—naturally lead to a belief that the disease must, from the first, be more than a mere local tissue change. But then, again, in view of the hereditariness of cancer, of the constancy and of the method of its recurrence, and of the insusceptibility of bodies generally to the inoculation of cancer, the word constitutional was held to be equivalent to the total constitution of the body, that the constitution is, in short, the man; all that gives to him his individuality. But, again, the assumed facts that in cancer there is no distinct or specific anatomical or structural element, that neither plurality of tumours nor the property of recurrence *per se* is destructive, that cancer is all-pervading and appears as a disease, the one essential character of which is dynamical, such facts suggest strongly to some that cancer is a disease of the blood, or even that hereafter it may be found to be in close alliance with the so-called zymotic affections. In favour of this view has been added the observation of the mode in which secondary cancerous tumours grow; not as mere grafts undergoing increase, but as a definite sphere of the secondarily affected organ undergoing changes in its own elements, and growing, by way of such elementary changes, into the likeness of the primary tumour. Furthermore, this view appears to be strengthened by a comparison of cancer with syphilis. Taking, on the other hand, a chancre inoculation, say of the lip, with affection of the lymph glands, followed after a certain number of years by gummata throughout the body, and taking, on the other hand, an epithelial cancer of the lip with its secondary affection of lymph glands, and subsequent identical affection of, say, the lung or liver, it is asked, Can we affirm that these two cases differ more than we might reasonably expect two species of morbid poison to differ? This is even suggestive of a contagium from without. And yet further, in the manner in which it is inherited, a resemblance has been found to syphilis, gout, and tubercle. Once more. In face of the fact that the hereditary transmission of cancer must mean that it is conveyed from parent to offspring, through the ovum or spermatic fluid, it must exist in the individual before the formation of the blood. And it has been maintained that the term constitutional, or all-pervading, may be true enough in regard to the ovum, but that it ceases to be true of the adult, because then we can realise the "condition of localisation" in the various tissues of the body.

Thus, with such different interpretations from such high authorities of the term constitutional, it cannot be allowed that it has any precise or definite signification for us, and furthermore, I fear it must be admitted that when the several grounds on which these various forms of belief are based, are critically examined—as, indeed, some of them were in the discussion alluded to—they will hardly be found adequate to the purpose in view. For example, that a disease is hereditary is no proof that it is constitutional in any of the senses in which the term has been employed. Otherwise the term constitutional must be given to every form of tumour which has been shown to be occasionally hereditary; and thus the significance of the expression, at least in its relation to cancer, would be lost. Neither does it appear to me that the view is supported by the manner in which cancer often proves to be hereditary. Although the fact of the occasional hereditary transmission of tumours is common to all of them, it has been pointed out that there is a difference in the manner of transmission of tumours which are called local and of cancers; that when a local or innocent tumour is transmitted it reappears in the same tissue, if not in the same place, in the offspring; whereas no such limitation is observed in cancer. But the difference in this respect seems to me to be more apparent than real, and, such as it is, I think may be

explained by the nature of the cancer substance, of which I shall speak presently. When innocent tumours are transmitted, they often appear in the offspring in widely different parts, although, for obvious reasons, somewhere in the same tissue; and cancers, when transmitted, have a strong tendency to reappear in the same part; perhaps in half the instances in the breast. The difference, after all, appears to be one only of degree, and if the current view of the relation of cancer to epithelium, and of sarcoma to connective tissue, be correct, of a degree perhaps not very significant. For it may be said that no kind of tumour which is hereditary is limited to a particular place, and every kind of tumour which is hereditary is limited to a particular tissue. Then its recurrence after removal and its dissemination—the features which place it in such striking contrast to the tumours called innocent—in a word, the signs that are generally held to indicate an affection of the system—cannot be shown, I think, to be the usual attribute of cancer in the earlier stages of its history. If, in its course, cancer becomes thus all-pervading, this does not involve the admission that it was constitutional at the outset; for a disease may be local at one time and constitutional at another; and this is a point which, I venture to think, requires to be carefully distinguished. The characters which a disease presents at an advanced stage of its progress is one thing; its mode of origin is quite another; and, in the case of cancer, I shall try to show that this distinction is a necessary one, and of fundamental importance. Nay, even in a disease which in an early period of its history is emphatically recognised as constitutional may, I suppose, in the earliest stage of all be considered local. For in whatever relation the induration of a chancre may stand to the infection of the system in syphilis, it will, I take it, be generally allowed that after inoculation and certain local changes consequent thereon a sensible period, though it may be a very short one, elapses before the poison becomes all-pervading. If the arguments in favour of the view that cancer is a constitutional disease be examined, it will appear, I think, that many of them are valid only in regard to the more advanced stages of cancer. The evidence in favour of the view that when cancer first appears in a body it is as a constitutional disease seems to me far less clear and cogent.

Now, let us discard for a moment these terms local and constitutional, and let us approach the study of cancer from another point of view. Amongst the many attempts at an adequate classification of tumours there is one which is founded on their structure, on the character of the elements of which they are built up. The fact is sufficiently clear that various tumours are composed of structures or tissues, which, in sensible characters, are completely identical with some one or other of the normal tissues or structures of the body. Fatty and fibrous tumours are familiar examples of these. I suppose portions of fatty or fibrous tumours may be placed under the microscope side by side with portions of natural adipose or fibrous tissue, and no histologist, who understood his work, would venture to say that he could distinguish between them. But, again, it is clear that certain tumours present structures which are not identical with any of the adult structures of the body, but which may be distinguished from any of these by competent observation. Hence the famous classification of tumours into homologous and heterologous growths. But further explanation is necessary here. In this view the term heterologous has been commonly employed in its full meaning; to signify that tumours so-called do not in their structure resemble any of the natural tissues of the body; it should, I think, be as I have already said—any of the adult or fully formed tissues of the body; for in truth, and this is of the first importance, these heterologous tumours, in their sensible structures, do resemble some natural tissues when in an embryonic or immature state. Just as portions of homologous tumours may be mounted side by side with portions of certain adult tissues, and no distinction between them can be discovered, so portions of heterologous tumours may be mounted side by side with portions of certain embryonic tissues, or tissues in course of development, and no distinction can be drawn between them. Let me be understood in this. I am not referring to the arrangement of the elements in a tumour, but to the sensible characters alone of the ultimate elements. A carefully prepared section of cancer or sarcoma in a typical state has characters, of course, by which it may be distinctly recognised. These characters of arrangement have been described over and over again, and are now familiar to all. But to these I do not now refer. My remarks here are confined to the primary forms themselves; to the physical characters of the ultimate elements of structure, not to the mode in which they are arranged; in short, to the so-called cells, either in their typical form or in some of the earlier changes they undergo. So, then, of cancer and its allies, of the various forms of sarcoma, it may be affirmed that they consist of structural elements which in their sensible characters correspond to certain natural structural elements in a rudimentary state.

Now, if we pass, for an instant, from the study of tumours to a comparative view of the phenomena of life, either in the vegetable or animal world, we must remark in various individuals of either kingdom a wide diversity of structure; not only a wide diversity in separation of organs, or in complexity of combination, but a diversity yet wider, even more general, in truth universal, in the ultimate anatomical elements of which they are constructed. From a simple cell, or cluster of cells, we pass through various tissues which have been reached by further stages of development, until we arrive at the most elaborate, or highly specialised structures; for instance, at the spiral vessels of plants and at striated muscle of animals. Again, by such a survey, the fact is revealed that there is the widest difference in the power of multiplicatton, or propagation, among the various forms of animal and vegetable life; and, furthermore, that a relation may be observed between the simplicity of original structure or degree of development and this power of reproduction; that the creatures whose structures and mode of formation are simplest, which are most akin to the primary elemental form, can increase and multiply with most rapidity and ease. On the contrary, in those creatures called highest, which consist of structures and organs most elaborately formed and highly specialised, the power of growth and reproduction is most limited. And yet, further. In such a study a deep difference is observed in the relation which such different creatures hold to the conditions under which they live. There is, of course, a constant action and reaction between them, and what are called the external agents of vital action, both material and dynamical. All are dependent on, and influenced by, food, air, and the operation of the physical forces; but this in widely varying degrees. While the higher or more complex creatures are less influenced in their character by these than are the lower or simpler, the lower or simpler are less dependent on these than are the higher or more complex. The simpler forms can exist, can maintain life, under far more variable conditions than the more elaborate ones. Their power of endurance is manifestly far greater. Who needs to be reminded of illustrations of this in either the vegetable or animal kingdom? Compare the power of endurance of exposure, deprivation, and extreme change of the simplest plants, with the tenderness and susceptibity of the more elaborately developed ones. In the animal kingdom, even among invertebrata, compare the simpler with the more elaborate forms of life, in their power of sustaining deprivation of food, and air, and heat; and, above all, witness the striking contrast in this respect between fishes and reptiles on the one hand, and birds and mammalia on the other.

Now, this great law of nature, for such it seems to be, governs not only the various individuals of the living kingdom, but it is in force also in the several tissues and structures of the same individual. Note now how widely they vary, not only in design and pattern, but in their degree of elaboration or complexity. Compare, for a single instance, fibrous tissue and striated muscle; and now note, too, the wide difference between these various tissues in their power of reproduction. The simplest of them may be said to be capable of perfect reproduction. Witness, on this side, the result of the division of a tendon; witness, on the other, the result of the division of muscle. It is doubtful perhaps whether, in such circumstances, muscle can ever be perfectly restored. It is certain that, as a rule, it is not; but that, in repair, its place is supplied—and observe the significance of this fact—by the lower or simpler form of tissue, the fibrous. Then, further, observe the relation in which this power of repair or restoration stands to the mode of original development, whether in the creature as a whole, or in the several tissues of which it may be composed. There is surely a relation, but an inverse one, between the extent of change through which any individual or structure passes in the course of its development and, when fully formed, in its power of reproduction after mutilation. In the vegetable kingdom compare, in their power of recovery after mutilation, the simpler cellular

plants with the higher exogens and endogens, and in the animal kingdom the like power in polyps, worms, and amphibia with that of birds and mammalia. And let me remind you here of the significant fact that this power varies, not with type of organisation, but with grade of development; not with the relation to each other of parts and organs, but with the nature and extent of change through which the several creatures in the course of their development pass. And what is true of creatures as a whole is also true of the several tissues of which they are constructed. Compare the power of recovery of the cellular tissue and woody fibre of plants, or of the fibrous tissue or even nerve and muscle of animals with their mode of development. It would seem indeed that in proportion to the amount of force engaged in original formation, so is the power of subsequent repetition reduced; or otherwise, that there is an inverse proportion between the power of attaining a high grade of development and the power of reproduction. So that while on the one hand, from a knowledge of the mode of development, one might foretell the capacity for repair after mutilation of an individual or tissue; on the other, from a study of the capacity of repair, whether in the individual or tissue, one might be able to judge of the degree of change through which it passed in the course of its original development. And it may be affirmed of individuals and their tissues that the lower the grade of development the greater is the power, not only of reproduction, but of endurance of life; that in proportion to the extent of change which any individual or tissue passes through in the course of its development, so not only is its subsequent power of reproduction limited, but so also is its maintenance of life dependent on the special conditions under which it exists.

Now of tumours, it may be remarked in the first place that, various as they are in structure, they almost invariably consist of one or more of the simpler tissues—of tissues of comparatively simple structure, and whose mode of formation does not involve any very elaborate series of changes. Among the tumours called homologous, or those which consist of adult or fully formed tissue, fibrous tissue in its various forms and adipose tissue are very common; muscular tissue very rare. When muscular fibre appears in the substance of a tumour the plain, or unstriped, or simpler form of fibre is far more common than the more elaborately developed striated fibre, and perhaps in most of the instances when either of them is found their presence is due rather to the inclusion of normal tissue in the tumour during its growth than to an independent formation or distinct outgrowth of muscle. Again, in glandular tumours, which are by no means uncommon, it is the acinous portion of the gland, that which in original development is first of all formed, which is chiefly represented in the substance of these tumours; ducts which are more complex are not very often completely produced. Still the tissues which compose these innocent tumours, comparatively simple as they are, nevertheless are wont to obtain their mature or adult condition; so that although, being of a comparatively low grade of development, they are readily produced, and can therefore grow almost without limit, yet withal, being fully specialised structures, their life more immediately depends on certain external conditions. But the structure of cancer and its allies is characterised by the presence of the lowest and simplest of living forms. The so-called cancer cells, the structural elements of cancer, are the very type of the rudimentary or embryonic form of tissue; and beyond this early stage the typical cancer cell seems never to pass. Both in positive and negative characters it corresponds to the simple animal or vegetable cell. In its indifferent endowments, in the total absence of any special function, in its tenacity of life and endurance of change of external circumstances, it very closely resembles it. If one were asked to enumerate the characteristic properties of the lowest and simplest forms of life, of the cell, I think reference would be made to rapidity of growth, to power of reproduction, to wide extension and dissemination. And do not these characters form the prominent features of cancer in its worst or most malignant form? The absence of any attempt at what is termed differentiation or specialisation is in accordance with its surpassing power of multiplication and tenacity of life; and, as we pass from cancer through the more malignant to the less malignant forms of sarcoma, we find a departure from the typical form of cell to be associated with more limited power of mischief. As the elements of a tumour become fusiform or spindle-shaped, as the first steps in development towards the formation of some special kind of tissue are taken, so is the property of dissemination, or the power of living under various conditions, restricted, until, as we pass further on to the production of distinct fibres, as the power of individual development advances, the attribute of indifference to surrounding conditions, or to its environments, disappears, and the elements of the tumour become limited to a particular place. It is from first to last local, or what we call innocent.

But one word further on the so-called cell of cancer. The history of this word cell, in its relation to physiology and pathology, is not without interest and importance. When the famous cell theory was first set forth, a cell was very clearly and accurately described. Schwann, and many of his successors, in their definition of a cell, took care to leave no doubt on what they regarded as its essential structure. At length, however, certain facts were established which were fatal to the cell theory as it was then understood and accepted by all. It was shown, for instance, that in the development of muscular fibre cells had no share, and it then appeared how deeply rooted in the minds of physiologists this great doctrine had become. To me, at least, it seems that mischief has arisen from the proceeding by which an attempt has been made to evade the fatal objection opposed to it by facts. The scarcely ingenious scheme has been devised of modifying or enlarging the definition of a cell so as to make it include structures which really can have no claim whatever to the title of cell in any fair signification of the word. Cells have more recently been described as mere masses of protoplasm, each around a nucleus, and the existence of a wall or limitary membrane as an integral part of a cell has been quietly ignored. To me it seems, in all candour, that no better reasons for applying to such a structure as this the term of cell can be given than that such compromise is essential to the maintenance, in some shape or other, of a so-called cell theory. It is affirmed indeed that "the existence of animal cells destitute of envelope, although more insisted on of late years, has been all along recognised in the study of cell development, and was expressly pointed out by Schwann himself." But although it is true that Schwann admits, in more than one place, that the presence of a cell membrane cannot always be demonstrated—as, for instance, in the following passage: "Many cells, however, do not exhibit any appearance of the formation of a cell membrane, but they seem to be solid, and all that can be remarked is that the external portion of the layer is somewhat more compact"—yet, I think, a candid study of what he has written will show that he never contemplated, by his theory, the inclusion of such facts in development as appear to be now established. If it were true, as Schwann and his more immediate successors believed, "that there is one universal principle of development for the elementary parts of organisms, however different, and that this principle is the formation of cells," then it would be all very well to admit the occasional existence of such structures imperfectly formed without doing much violence to the doctrine. But it is altogether different when, in the development of certain most important tissues, no cell in any form appears, to persist in applying the term to simple fragments of protoplasm, a term which has been long and properly associated with a definite and different structure. It may be suggested that the alternative of throwing over an exploded doctrine is preferable to the confusion which must inevitably result from such vague and inaccurate employment of words. Surely the cell theory, as it has been long understood by all, is no longer tenable. Why attempt to avert its fate by what cannot be characterised otherwise than as a perversion of language?

And this question of the constitution of these so-called cells points to the further fact which I believe to be at the root of the erroneous view of their nature: the changes in aspect and character which living substances undergo at death. The conclusion has, for the most part, been too hastily and unconditionally accepted that the characters presented by tissues after death, and even after treatment by powerful reagents, are those that naturally belong to them during life. The structural changes which ensue on the cessation of life have, indeed, been long recognised in certain nerve fibres, but hardly, I think, anywhere else; yet I believe it to be, in some degree, common to all tissues. There can be no doubt, I think, of the fact of great change in striated muscular fibre; and some years ago I tried to show that the nucleus of the red blood cell in those vertebrata in which it is supposed to be constant has no existence during life and health. And I believe that the same fact is true of many forms of the

nucleated cell; of the cancer cell, for instance, here. During life these are but fragments of simple protoplasm, the substance of which, uniform during health and vigour, separates at death into cell wall, nucleus and contents, after the manner of the coagulation of the blood and the rigor mortis of muscle. Now, I say, this seems to apply with especial force to the pathology of cancer. Its elements are, in truth, not differentiated even into complete cells. When fresh and unaltered there is no distinction of cell wall and cell contents. In the living particle I doubt whether there is even the distinction of a nucleus. In short, they are, I believe, but separate fragments of protoplasm equal to, but not higher in rank than, the amœba or white blood cell or the utricle of the plant. I say this view especially concerns us in its relation to the pathology of cancer. Cancer, strictly so named, we have been taught is the outcome of the epithelial tissues. Now, fully formed or mature epithelium is undoubtedly composed of cells, of individual structures showing distinctly enough cell wall and nucleus. And yet even here development into a complete cell is through the shortest and simplest changes. Then see how even this contrasts with the so-called cell of cancer, for these fragments of cancer protoplasm are but the embryonic or rudimentary form of a cell of epithelium. Their power of individual development does not reach even to this level. Judge, then, what their power of endurance and of multiplication must be. Then, again, this concerns the relation which the cancer cells bears to some cells of natural structures. If the cancer cell were really a complete and fully formed cell in the proper acceptation of the term, it might be argued that in this view it should have no further power of malignancy than, say, a fat cell. But herein consists the difference. A fat cell, although a comparatively simple structure, is yet one thoroughly specialised. It is no longer indifferent substance, but its life is devoted to a particular function. It is fully formed, adult, mature. So, again, with the cells of secreting glands. They probably are not, and, I think, for the same reason, so far removed from cancer cells as are fat cells. But still, gland cells are not in a state of indifference. They are so far specialised that they have a definite function, and clearly the whole purpose of their life is devoted to its fulfilment. I will only add, as reference to this matter, that I believe the same view may be carried into the structure of sarcoma. The characters which the elements present after death, still more after the action of various reagents, are not those which belong to them during life. The so-called fusiform and spindle-cells are, again, but separate fragments of protoplasm, altering their shape in the first step towards the production of some definite tissue.

Seeing that no satisfactory explanation of the clinical facts of cancer can be given by way of the constitution or blood or germ, some have sought to find it in the mobility and dispersion of the cells. To account for the infection of neighbouring and distant parts, and ultimately the contamination of the system, attention has been called to the fact that the cells are dispersed around a cancer tumour, and that the direction and rapidity of dispersion will vary according to the density of the tissues, and the abundance of connective tissue spaces, or of lymphatic or vascular networks in which it lies. We have been reminded that cancer is, for the most part, a structure infiltrating itself amongst the tissues in which it grows, not surrounded by a capsule or limitary membrane of any sort, as are so many non-infecting tumours. Once set free, it has been argued, the cells may travel either along the lymphatics to the glands, or through the surrounding tissues in the direction of the least resistance; or they may pass through the bloodvessels into the general current of the circulation. At times, too, they may pass through cavities by gravitation. No doubt such physical conditions as those alluded to may have some influence on the rate and direction of the distribution of cancer, but all of them together will surely not suffice to explain the clinical facts. A comparison of the dissemination of cancer with the wandering of white blood cells, which, indeed, has been brought forward to support the view, seems to me, when considered, to destroy it. The white cells wander freely, but they do not form new and distinct growths composed of masses of white blood cells over the body; but they soon change, are either developed into some form of existing tissue, or otherwise disappear. It is, on the contrary, in the very nature of the cancer cell not to advance in development, but to multiply. Moreover, it has been pointed out that there are cancers and sarcomas which multiply themselves in distant and dissimilar parts, whose physical condition looks as unfit for travelling as any that could be named. It is quite true that, in the typical forms of cancer proper, the cells themselves are free and mobile in the spaces within which they are enclosed. But when we study malignant tumours as a class, and compare them with innocent ones, it cannot, I think, be affirmed that there is anything like a constant relation between the rate and extent of their distribution and the mobility of their cells. Again, the attempt has been made, by Cohnheim, for example, to explain malignancy by assuming that the physiological resistances to invasion are somehow diminished. He argues that germs of cancer implanted into fresh tissue are sure to perish when the changes which go on in the tissue are normal. Their development implies that the tissue changes in which they live and grow have ceased to be normal. But there is no evidence of this in relation to tumours, and even, if established, it would not afford any adequate explanation of the malignancy of cancer. Why should it not apply to other tumours which are innocent? It does not touch the question of distinction between these and cancer.

The phenomena of cancer, then, the facts of its clinical history cannot be adequately explained by any reference to the constitution in any of the senses in which the phrase constitutional has been employed. The arguments in favour of this view in any form fail from want of precision. In the sense that an original flaw or defect exists in the vital endowments of a part it may be admitted to be true; but in this sense innocent tumours must be admitted to be constitutional, and so must every individual feature be which is hereditarily transmitted. Neither can the clinical facts of cancer be explained by regarding it as an affection of the blood. Inasmuch as this view has some advantage over the other in precision, so it fails more conspicuously to cover all the phenomena of the disease. Nor can the malignancy of cancer be explained by the mere mobility of its elements, for ceaseless change and constant transmission is the law of life everywhere. All fluids, all solids, the loosest and the firmest textures, are in continual motion. Look where we will we know full well that the appearance of stability and endurance is illusory. Vital action is inevitably associated with molecular movement. Freely, then, to cancer we may grant great mobility of its elements; but to explain its clinical facts we require much more. And I, at least, believe that what is wanting here is to be found in the nature and vital attributes of its so-called cells, or of the formless plasm out of which they come. For this matter, or these fragments, possess an ability of living after the fashion of the lowest and simplest forms of life. When we call these structures embryonic, it must never be forgotten or overlooked that this term has reference only to their position in the scale of life, to their grade of development. They resemble, indeed, during the whole period of their individual existence embryonic substance in the simplicity of their physical characters. But they differ in the widest possible way from embryonic structures in their vital attributes and life history: in the almost, if not quite, complete absence of change of structure or of endowment; and it is in this contrast that their power of evil becomes manifest. The great feature of embryonic tissues is in the advance from a simpler to a more complex state; to the formation of a higher structure, with more exalted or, at least, with more special functions. In short, their great vital endowment is the power of development. But the protoplasm and fragments of cancer are just what they are, because they have none others. They cannot "rise to higher things," and, according to a law of nature, they obstinately retain life and, in unbroken force, the power of propagation. Their power of growth is inversely to their power of development, and growth here is but synonymous with multiplication; for, as in the lowest and simplest forms of animal life, in structures composed of simple cells or fragments of protoplasm, no distinction can be drawn between extension of the individual and multiplication of individuals. And withal combined with these characters of life is, after the manner of their kind, their independence of special environments. Thus, upon their increase follows their dissemination. They are not bound by the conditions of their existence to be local; but they can invade various parts and flourish still. It would appear, then, that much danger lurks in the designation "embryonic" to cancer substance, and that it is of the first importance to beware of this. Malignant growths are heterologous in structure, unlike in this respect any adult tissue. But their substance resembles in physical characters embryonic tissue. It is only

on a level with it too, and this is of prime significance, in grade of development. But it contrasts strikingly with it in this—that while the destiny of tissue which is truly embryonic is to a higher form of structure, this, which has no such power, retains in full measure the primitive capacity of reproduction and its comparative indifference to the conditions under which it exists. Although, as we all know, it is not correct to say that the higher animals, in the course of their development, pass through states identical with those of the adult condition of the lower, it is not incorrect to say that the higher animals, in the course of their development, pass through successive stages which in grade correspond to or are on a level with the ultimate stages of the lower. It is thus, and thus only, that we compare cancer substance to embryonic tissue.

This view seems to me to be strengthened by some facts which at first sight may appear to be in direct contradiction to it. Cartilaginous tumours, for example, are homologous structures—that is to say, they resemble generally certain of the normal tissues of the adult body; yet cartilaginous tumours, although usually innocent, occasionally behave, as everyone knows, like malignant growths. They grow with rapidity, and they reappear in distant and various parts. They are indeed singular among tumours in the respect that apparently the same structure will in different cases be endowed with such different attributes. But then it should be remembered that there are two kinds of normal cartilage, distinguished not so much by their structure as by their life history: the one called temporary, the other permanent cartilage. The one form does not throughout its life pass beyond the condition of cartilage; the other passes, sooner or later, into bone. There must therefore be something fundamentally different in the nature of these two forms of cartilage. Now, the enchondromata, which in their nature resemble the former kind, are localised, are innocent. They may be, and often are, multiple, and sometimes grow freely, and this quite accords with the simplicity of their structure. But the enchondromata which in their nature resemble the the latter kind are more or less malignant. They remain on a level only with structures which are fœtal, and with the absence of further development is associated the power of increase and of dissemination. It may be said that the cartilaginous tumours which are innocent show no advance of structure beyond those which tend to malignancy, none indeed that we can yet discover; but then neither do some forms of permanent cartilage differ in this respect from fœtal cartilage, yet we must regard the one as fully formed tissue, and the other as only in a more rudimentary state. In such microscopic structures it is not always practicable to discern the grade of development in the permanent aspect. The grade of a fat cell or of a gland cell must be interpreted rather by the specialisation of its functions than by its obvious structure. And let me observe that this attempt at explanation is not affected by the view we take of the nature of the transformation of cartilage into bone. Whether we regard it as an act of development or of degeneration, whether we regard bone or cartilage as the higher structure, still in the passage from cartilage into bone there is metamorphosis, further change, a tissue still further removed from the embryonic grade. In truth, the relation of cartilage to bone is by no means a peculiar one. Before we can determine to call any change either development or degeneration, we must become clear on the meaning of these terms; but it seems to me that any just view which will lead us to call ossification of cartilage an act of degeneration will lead us also to consider the several stages of the formation of other tissues as acts of degeneration. In this view the germ is the highest of all structures, for of all structures it possesses the greatest capacity for the highest phases of vital action. As we pass from the general to the special this power dies out, and at length there is only the power, and this to a limited extent, of self-maintenance. In the qualities in which cartilage can be said to be above bone all young structures are above adult ones.

I suppose it must be admitted that the present classification of tumours is not altogether a satisfactory one; but it was undoubtedly a great step onward when those tumours which, although not cancer proper, possess some of the worst features of malignancy, and which as a class are distinguished by the obstinacy of their disposition to recur, were brought together into the great group under the title of sarcoma. The title itself is an unfortunate one, but, nevertheless, our knowledge of the subject of tumours becomes clearer if we understand the chief marks of distinction, both pathological and clinical, between cancer and sarcoma, even without reference to the doctrine of their respective origins from epithelial and connective tissue, or rather from structures derived from the epiblast and hypoblast on the one hand, and from tissues derived from the mesoblast on the other. But under the term sarcoma is included a large class which may be very fairly subdivided into orders that for the most part differ strongly from each other; and this must of necessity be so if the view on which I have ventured to insist be well founded, for the sarcomas, in truth, represent the several connecting links which pass between the two extremes of cancer on the one hand, and quite innocent tumours on the other. The worst of the sarcomas are almost or altogether as bad as the worst cancers, and in their structural elements they very closely resemble them. Nay, in some instances they overlap or even pass to the other side. The clinical history of some forms of melanotic sarcoma is far worse than that of some forms of epithelial cancer; while some of the outgrowths which still fall within the class of sarcoma, as, for instance, the common nasal polypus, or myxoma, as it is called, may fairly claim by its behaviour to be ranked amongst tumours which are innocent. And as in the clinical history, so in the structural elements of sarcoma, the same gradation prevails. In this class, we pass through all degrees, from the scarcely altered cell, or fragment of protoplasm, through oval, spindle, and fusiform cells, to the fully formed fibre. These three great classes of tumours, then, are distinguished by the grade of development of the structures which constitute them. Those tumours which are recognised as innocent ones are constituted of elements which, for the most part, are on a level in grade of development with many of the fully formed or adult tissues of the body, and therefore in physical characters they are identical with them. Those tumours which are included in the class sarcoma are constituted of elements of various grades of development, being on a level with the successive stages of formation of some of the normal tissues. And those tumours which form the most malignant cancers are constituted of quite rudimentary elements, those of the lowest grades of development being but on a level with the embryonic stage of normal structures.

With reference, however, to this classification, it must be remembered that some tumours are of what may be called mixed or compound constitution—that is to say, that they consist of different structures in different parts. In some parts they consist of tissues like the mature normal structures, in other parts of more or less rudimentary forms; and, of course, their clinical characters will vary accordingly. Hence, unless an examination of such a tumour is very thorough and complete, any inference drawn from it may be very erroneous. Perhaps most tumours present, in some degree, differences of this kind. But, then, when structures of some low grade of development are discovered the question which is of cardinal importance still remains to be answered, Whether these are on their way to further development, or whether they have already reached their level and live only to multiply and invade? Another point of importance in reference to such a classification is to beware that we do not confound mere shape or form of these structural elements with their nature and attributes or rather to be cautious in drawing any inference of the one from the discovery of the other; for example, epithelioma of the lip and carcinoma of the breast are both composed essentially of what are called cells. But most of the cells of epithelioma are properly so-called. They are more or less mature. But the so-called cells of carcinoma are, as I have said, but fragments of protoplasm, and never reach to the level of true cells. To be sure, the grade of development in each case is low enough, and therefore both kinds of growth are malignant; but still there is a marked difference of grade in the two cases, and therefore an obvious difference in degree of malignancy.

I would venture to insist upon the significance of the fact that the present classification of tumours, which has been gradually worked out as the result of long and patient investigation, but without any reference to the principle I have been endeavouring to set forth, should nevertheless be in such accordance with the laws which govern the phenomena of life in general. It is suggestive enough that two paths of inquiry, separately pursued—that of clinical study and that of histological research—each lead at length to the same conclusion; that different degrees of malignancy of character should correspond with different grades of develop-

ment of structure; that in morbid structures, as in normal forms of life, there should be an inverse relation between the capability to increase and extend, and the power of passing, by development, from the general to the special. And in the examination of a tumour, with the view of forecasting its clinical history, it appears to me that this is the chief question which should be taken into consideration. It will assist us less to know that any given tumour belongs to this or that particular class and order than to ascertain its own exact nature from a thorough investigation of its substance. Of course help in this, to a greater or less degree, may be derived from all the circumstances which pertain to it, not only by considering it in reference to the group to which it may belong, but also by reviewing its own previous history. But withal, when corrected or adjusted by such considerations as these, and others, too—such as its situation and mode of growth, and the local and general conditions to which it is subject—the first place may be given to a complete investigation of its anatomy. I say complete investigation, because of the fact already referred to that some tumours are of mixed characters, and their potency for mischief has perhaps to be estimated by the worse rather than by the better parts of them. I think if in a doubtful case I had to depend for prognosis on one source of knowledge only, I should choose to have this: the family and personal history of the patient, his or her own age or period of life, the physical characters of the tumour and its relation to surrounding structures, its place and previous history, especially its rate of growth, and, beyond all, its disposition to affect neighbouring and distant parts. Of course these together, and some of them alone, oftentimes speak clearly enough; and would, and should, with our present knowledge, outweigh any evidence derived from anatomical characters only. But when serious discrepancy occurs, as, indeed, it sometimes does, between clinical and anatomical evidence, this is due, I venture to think, rather to deficient examination or defective interpretation of what is seen than to any fallacy in the principles involved in it.

It is in accordance with our knowledge of the relations of the lowest individuals to the conditions under which they exist that malignant tumours should be very largely influenced by these. Look, for instance, at epithelioma of the tongue. Epithelioma, as a rule, is not reckoned as the most malignant form of cancer, and yet what a terrible history is that of epithelioma of the tongue! And may not this, at least in great part, be explained by its place and the conditions to which it is exposed; to the great vascularity of the tissues among which it lives; to the warmth, moisture, and continual motion; to say nothing of repeated, though perhaps slight, injury and inevitably frequent irritation? Yet, after all, what is the sum of the effect of these causes here upon diseases of a totally different nature? Surely the life history of cancer, as of any normal individual, is determined, in the first place, by its own endowments, which are the outcome of its structure.

Tumours are living structures, distinct outgrowths in some part or other, of the body; local or limited to a particular place in inverse ratio to the capability of their elements to adjustment to different conditions of life. Like the natural structures and organs, they have an independent life of their own, which is more or less influenced, modified, and controlled by the life of the body. Like natural structures, they have an inherent power of maintenance, but this power is regulated by the condition of the body in general. Tumours, by certain members of their class, approach very nearly to normal structures, and, indeed, between some of these and what may be fairly called local hypertrophies of tissue no well-defined line of demarcation can be drawn. Some of the chronic mammary or glandular tumours illustrate this. But, even in such outgrowths, the first departure from normal type is shown, not only in the formation of their substance, but also in the fact that they are not in such close physiological relation with normal structures as these are with each other. The sympathy which universally prevails between the several structures and organs of the body, and which is maintained either through the blood or by the nervous system, or in both ways, varies in degree among natural structures. But between all these and tumours a far wider divergence is found; they rise and fall less with the ebb and flow of general life, and they are less affected by changes in other structures. Thus, by the most innocent and homologous tumours is the first step taken towards an independent life; and it may be observed that this independence gradually gains strength, and becomes more marked as we pass from the most innocent, through tumours of varying degrees of malignancy, to the very worst; and as we have seen, it is to the comparative independence of their life that the most deadly of their attributes belong. And while tumours of the most innocent touch, and indeed pass into, natural structures, by the most malignant they touch, if they do not actually pass into, the class of parasites. Parasites are living forms, having, too, in various degrees a power of independent life. For the most part they can flourish only in the living body; and while there they too are within the pale of the laws of its natural life; but within this they have an individual life, more independent of that of the body in which they live than tumours possess; and, moreover, they can for a longer period maintain life altogether apart from the body they are prone to infest. They can maintain a separate life in some of its lower grades; but they can exhibit their full vital endowments only in the body to which they belong. Now, at present it must be confessed that experiments on the grafting or inoculation of tumours, even of the most malignant, have not been attended by success; we cannot yet say that cancer can be thus propagated; still there are some curious facts in reference to this. In certain cases it has been observed that when a cancerous mass has been allowed for some time to be in contact with an apparently healthy surface, this healthy surface has at length become cancerous; and, in this manner, cancer seems capable, after the fashion of a parasite, of passing from part to part. From part to part of the same body only; but I wonder what would happen if such an experiment could be fairly tried between different bodies. May not the experiments on inoculation hitherto have failed because of the crude conditions under which they have been performed? But be this as it may, and setting aside this conjecture, it would really appear that the interval between the worst cancer and certain parasites must be a very narrow one. Through the various kinds of parasites we pass to altogether independent forms of life; and I cannot help thinking that, from this point of view, much interest must be attached to tumours as indicating the first steps towards the assumption of a separate and independent existence. But until it can be shown that tumours may be transmitted from one person to another by grafting or inoculation, it must be acknowledged that there is this sharp line of distinction between all of them and parasites. Parasites come always from without; tumours arise only from within; from some part or natural structure of the body itself. And it may be said that, after all, nothing more is known of the origin of tumours than this. Once started, we may perhaps see something of the laws which regulate their existence, but concerning their origin we are altogether in the dark. Yet still recognising in this darkness an obscurity which enshrouds also some of the largest facts in physiology, we may perhaps be able to discern the direction in which light must at length come.

While tumours, then, appear to be bounded by the lower and simpler forms of parasites on the one hand, they are approached by what are regarded as abnormal conditions of nutrition on the other. The process of nutrition in its simplest state is one of mere maintenance. The bulk and weight of a structure or organ are preserved, in spite of constant wear and tear. In growth there is increase either of bulk or weight or of both. But why at a particular point growth should cease we do not know. We can only speak of it as a natural law. It is the same with regeneration or repair after injury. There is reproduction up to a certain point, and then this, like normal growth, closes. But within limits the growth or natural increase of a structure or organ is regulated by the conditions under which it exists. Some of these conditions are healthy ones, others are morbid; and thus we speak of overgrowths or hypertrophies as conservative or pathological. Now the hypertrophies which are morbid in their nature seem to lead us on to tumours. The morbid hypertrophies, as a rule, affect more or less the whole bulk of an organ, as in the instance of the prostate or thyroid gland. But the "more or less" is a very important fact for us, for sometimes the overgrowth involves only a portion of the structure, leaving the rest unchanged. This is abundantly illustrated in the two organs just mentioned. Only a particular part, as a single lobe, may become overgrown, and the limit to such extension we can hardly indicate. Again, the excess of substance may be produced in one or both of two ways: either by a simple enlargement of the already existing

elements of the organ, or by the development anew of additional elements. The organ may become larger by an increase in the size or in the number of its elementary structures. Thus we have what is called simple hypertrophy, and what is called numerical hypertrophy or hyperplasia; and I think there can be little doubt that increase by hyperplasia is at least the more common process. In many cases this is clearly revealed, as in epithelial structures generally, and glands more particularly. Now, surely, the transition from a local hyperplasia to a distinct tumour is not a very abrupt one. Nay, is it not, I repeat, sometimes very difficult if not impracticable, as in the instance of certain masses in the mammary or prostate gland, to draw any line of distinction between them? The mystery, then, which enshrouds the origin of tumours appears to envelop also other eccentric modes of vital action which are nevertheless more akin to some of the normal processes of life. Before we shall ever be able to answer the question why or how do tumours form, it seems to me that we must be able to solve the problem of normal growth and development, and to answer the question why or how it is that these continue up to a certain point, and then suddenly cease.

Clinical Lectures
ON
CASES OF DIFFICULT DIAGNOSIS.

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(*Concluded from p. 990.*)

IT will be remembered that there is a considerable difference in the symptoms in the two cases which occurred in our wards and which I have selected for our consideration. In the first the patient was suddenly attacked with severe pain of the abdomen, which was more or less present until death; whilst in the second scarcely any pain was complained of, and diarrhœa formed the first and the prominent symptom throughout. Then it must be remembered that the perforation occurred in the former case whilst the patient was in perfect health; in the latter it presented itself in a person labouring under chronic phthisis. Now, this distinction holds good when large numbers of cases are examined. I have collected eighty-five cases in which the first symptoms are recorded, and of these sixty-three, or 73 per cent., complained of abdominal pain as having ushered in their illness. The onset of the pain was in almost every case sudden; in thirty-two it was referred to the abdomen generally; and in twenty-one it was located in the right iliac fossa or in the hypochondrium. According to my own experience where abscess only is the result of the perforation the pain is at first confined to the lower portion of the abdomen, and is often of a colicky character; but when general peritonitis is developed from the first the pain is more severe and more generally diffused. In one case the symptoms are recorded as those of "gravel," and I have myself seen frequent and painful micturition form the earliest indication. In two instances the more dangerous symptoms were preceded by tenesmus. In eight well-marked rigors preceded the pain, but this symptom has not fallen under my own notice. Vomiting is recorded as being present in the commencement of the illness in eighteen, having generally shown itself immediately after the pain. Collapse is only noticed in four, showing a striking contrast to the frequency with which it presents itself in perforation of other parts of the gastro-intestinal canal. Constipation was only noticed in eight cases as a primary symptom, probably because the accident so frequently occurs in persons in good health, and in whom the action of the bowels has been regular. Diarrhœa was noticed in nine out of eighty-five, but in almost every case the patient was suffering from phthisis, from typhoid, or some eruptive disorder. In two cases the initial symptoms were so obscure that they are stated to have resembled typhoid fever. If, then, we look again at these figures, we shall see that the most general symptom that ushers in the illness in a person previously healthy is a sudden and severe pain of the abdomen or of the right iliac region, generally attended by vomiting, and in some cases by rigors; but that where it occurs in those suffering from phthisis or typhoid, pain is often slight or altogether absent, and diarrhœa is then the prominent initial symptom.

We found that perforation of the appendix was capable of producing very different effects according as it might lead to adhesion between the injured part and some of the neighbouring organs, or might give rise to general peritonitis or to localised abscess; and it is evident that the symptoms presenting themselves during the life of the patient will vary according to the pathological conditions that may have arisen. We must therefore, in order to obtain an accurate clinical picture of the disease, examine cases of each kind by themselves as far as it is possible to do so. First, then, let us look at the symptoms that present themselves in cases that terminate by adhesion. A man, thirty years of age, was admitted under my care complaining of severe pain in the right iliac region, increased on pressure, vomiting, and obstinate constipation. Four years before he had a similar attack and was ill for three months, but he perfectly recovered, and remained well until two days previous to his admission, when he exerted himself at a game of cricket. On reaching home he began to vomit, and pain of the right side suddenly attacked him. The man died, and we could not obtain a post-mortem; but there seems little doubt from the symptoms and the physical signs that he had perforation of the appendix, and that in his exertion of the abdominal muscles he had ruptured some old adhesions and thus induced peritonitis. There are some similar cases on record, in which rupture of adhesions of the appendix were proved by examination after death to have taken place, and the previous illness had been described as "typhlitis"; so that in all probability the symptoms that present themselves in the cases that terminate in this favourable manner cannot be distinguished from those of inflammation of the cæcum. The occasional occurrence, however, of such cases should lead us to warn patients not to subject themselves to undue exertion for some time after any severe attack of inflammation in this region.

Whenever general peritonitis is excited the symptoms indicative of that condition present themselves, but in many cases they are considerably modified, as in other cases of suppurative inflammation of a serous membrane. Thus it is not unusual for the pain to lessen for a day or two, and the patient to express considerable relief, although the disease may be progressing. In some instances, probably from the appendix becoming surrounded with lymph, the patient appears to be convalescent, when he is again suddenly prostrated by an accession of inflammation induced, we may suppose, by an escape of a portion of the inflammatory products into the peritoneal cavity. A case of this kind came under my notice a short time ago; a gentleman suffered from the usual symptoms and physical signs of perforation of the appendix, from which he gradually recovered; but when apparently convalescent, he was again attacked by illness, and rapidly sank.

Tenderness on pressure is experienced over the whole abdomen, but is always most severe in the right iliac or the hypogastric region. This is the case even when the pain is chiefly referred to the epigastrium, or near the umbilicus, and it often affords a clue to the real seat of the mischief—for instance, a sailor was suddenly attacked with pain in the epigastrium, followed by vomiting, and when admitted under my care he presented the ordinary symptoms of acute peritonitis; but although the abdomen was everywhere tense and tender, it was chiefly so in the region of the cæcum, and after death we found he had perforation of the appendix. The pain, in many instances, radiates downwards, and in five out of sixty-two cases it was chiefly experienced in the right thigh; and in one case it is said to have been felt near the anus. Vomiting generally occurs, and often at an early period; but it is, I think, more readily kept in check by opium than when it accompanies peritonitis arising from other causes. As a rule, constipation is present, but can be relieved by the use of enemata; in twelve cases out of sixty-two diarrhœa was a prominent symptom. You must here bear in mind that we are now speaking of peritonitis produced by perforation in persons previously healthy, for, as we shall shortly see, severe diarrhœa almost always accompanies the disease when it occurs in phthisical individuals. The pulse is usually quick from the first, and remains so, even if the other symptoms seem to be ameliorated. It is worthy also of remark that the temperature is rarely very high, even in non-phthisical cases; and I have

known this coolness of the skin lead practitioners to doubt if the case was such a dangerous one as it otherwise appeared. In the last four cases that have occurred at this hospital we find the temperature varied; in one case from 100° to 101°, in the second from 97·6° to 99·8°, in the third from 98° to 99·6°, and in the fourth from 97·5° to 99°. Now, it must be remembered that the disease occurs for the most part in young persons, in whom we should expect any serious inflammation to light up very high fever, and we must be, therefore, on our guard against allowing the coolness of the surface to mislead us as to the gravity of the case. Death always takes place from exhaustion, and is not unfrequently preceded by delirium.

When an abscess only results from the perforation of the appendix the progress of the disease, as well as its duration, greatly differ from those in which it is followed by general peritonitis. We shall see this best by contrasting the following case with those previously related.

CASE 3.—A man, aged twenty, was admitted into my wards complaining of severe pain and swelling of the right side of the abdomen. Six weeks before, when at Newcastle, he was suddenly attacked with pain in the right side, which was at first slight, but gradually increased to such an extent as to compel him to leave his work. Shortly afterwards he noticed a swelling in the right iliac region, which became very hard and increased in size in proportion as the pain became more severe. On examination, a large area of dulness could be made out by percussion occupying nearly the whole of the right side of the abdomen, a swelling also presenting itself in the right lumbar region; it was very tender on pressure, but no fluctuation could be discovered. The temperature was 102·8°; the pulse 136; tongue dry and furred; appetite bad; bowels confined. Four days afterwards he is reported to have been much worse, was in great pain, perspired freely, and the temperature was 101·5°. On the sixth day he was only semi-conscious. Temperature 100°; abdomen greatly distended, and the following morning he died. At the necropsy the appendix was found to have been perforated and communicated with a large abscess. General peritonitis was also present, but seemed to be of recent occurrence.

You will be at once struck with the slow progress of this case as compared with those in which peritonitis had immediately followed the perforation, and you will observe that, on account of its longer duration, there was a more distinct appearance of tumour during life than in the two cases formerly quoted. Of sixteen of the cases I have collected in which an abscess only was present, the existence of a well-marked tumour is mentioned in 40 per cent., but in only 20 per cent. could fluctuation be discovered, and in only six of the sixteen was pain in the abdomen a prominent cause of complaint. We found constipation was generally present where general peritonitis had occurred; but when there is abscess alone diarrhœa is more common, five out of the sixteen having suffered severely from it.

In the case just quoted peritonitis eventually occurred, but in other instances a more favourable result is observed, on account of the abscess bursting externally, or into some of the neighbouring organs. I have before mentioned a case admitted into my wards three years ago, in which an abscess formed on the right thigh, and fæces were evacuated when an opening was made into it; others are recorded in which pus was discharged into the cæcum or into the rectum, as occurred a few years ago in a person admitted into this hospital. In the following case a communication had probably taken place between the appendix and the vagina.

CASE 4.—A lady, about thirty years of age, consulted me on account of very severe attacks of colic, and on examining the abdomen a large scar was observed over the cæcum, which, from the bulging below it, seemed to be adherent to the large intestine. She stated that at the age of twelve she had been suddenly attacked with pain in the right iliac region, which confined her to bed for many months, and which was eventually relieved by the bursting of a large abscess on the site occupied by the scar. Since that period she had also observed a slight discharge of a brown colour from the vagina, and occasionally small seeds presented themselves in it. On examination a minute opening was detected in the upper part of the posterior wall of the vagina, and small particles, evidently of a feculent character, were found. She was relieved of the colic by careful regulation of the bowels, and the opening into the vagina was permanently closed by the application of the galvanic cautery.

It will be remarked that the second case I quoted differed considerably from the first in the very slight amount of pain, the depression of the temperature and the persistence of severe diarrhœa, and that the patient was suffering from chronic phthisis when attacked by the perforation. If therefore we wish to obtain an accurate clinical picture of the disease, we must consider such cases separately, for we shall find that in the invasion and the symptoms they are essentially different from those occurring in healthy individuals. I have collected eight cases of phthisis in which this accident occurred, and in six persistent diarrhœa is mentioned as the prominent symptom. In one there was no suspicion during life that perforation had taken place, in three it is expressly remarked that pain was not complained of, and in three a certain amount of pain was experienced in the lower part of the abdomen, but it was not severe. Tenderness of the hypogastric region is only mentioned in one case. No mention is made of the temperature in any of the above cases, but in Case 2 it will be observed that it was generally below the normal point. The question naturally occurs, Why should there be this difference between the symptoms of the same disease occurring in a phthisical and a healthy individual? In the first place, we must remember that in the former the perforation is produced only by an ulceration, and that therefore no concretion or decomposing material is suddenly introduced into the cavity of the peritoneum, so that time is given for the localization of the mischief by adhesions to the surrounding structures; and in the second place, inflammation is not so readily lighted up in a person whose strength is reduced by long illness as in one who is in a robust state of health.

With the exception of the few cases in which the appendix becomes adherent, or in which the abscess is discharged into some of the neighbouring organs or bursts externally, death almost always results from perforation of the appendix; but the duration of the disease varies greatly according to the pathological conditions that have been produced by it. Thus of fifty-seven cases the date of whose deaths is recorded, forty, or 70 per cent., died within the first week of illness; eight died in the second week, three in the third week, and the remainder lingered from nine to twenty-one weeks. As regards the deaths in the first week, four died within twenty-four hours of the perforation taking place, six on the second day, four on the third day, five on the fourth, three on the fifth, eleven on the sixth, and seven on the seventh day. All the deaths occurring in the first week were from peritonitis; in the second week four died out of ten cases with abscess only, two died of abscess in the third week, one in the tenth week, and three lived more than thirteen weeks, and eventually died with abscess unaccompanied by peritonitis.

The physical signs presented in cases of perforated appendix vary in different cases, but they are so important that you will scarcely be able to arrive at a correct diagnosis unless you take them into careful consideration. When general peritonitis is present there is, of course, considerable distension of the whole abdomen; but when abscess only exists there may be only a slight fulness in the hypogastric or iliac region, and the rest of the abdomen may present no appearance of enlargement. There is almost always a feeling of increased resistance to pressure in the iliac or hypogastric region, but at an early period you can detect no distinct tumour; when, however, it is a chronic case, an undefined tumour can be usually distinguished in the affected part of the abdomen. It is very rare for fluctuation to be felt on account of the depth at which the pus is situated. Pressure always gives rise to more or less pain, and this is more especially the case when abscess alone is present. In many cases you can detect through the rectum, as in Case 1, a tumour, which is formed by the adhesion of a number of intestinal coils enclosing pus. The percussion note is tympanitic in all parts of the abdomen, but at an early period it is less distinctly so over the site of the abscess. At a later period the dulness becomes more complete, but you should remark that the line of dulness does not alter with the position of the patient, so that you know the exudation is not free in the peritoneal cavity. I have mentioned in Case 1 that percussion over the cæcum elicited a clear note, but it also produced a gurgling sound, as though a cavity filled with air and fluid was situated under the finger. This sign has been observed in other instances, and is likely to be of use in difficult cases, but, unfortunately, it is not always present.

The diagnosis is of course most important, inasmuch as the treatment must be based upon a clear conception of the

pathological conditions present in each case. The chief points to be borne in mind are: the suddenness of the attack of severe pain in a person previously in good health, the more or less rapid supervention of peritonitis, the increased tension and tenderness in the right iliac fossa and in the hypogastrium, the diminished resonance on percussion in this region, often attended by a gurgling noise, and in some cases the presence of a tumour in the pelvis, ascertained by an examination made by the rectum. You may easily mistake perforation of the appendix for a number of other acute and chronic diseases.

In intussusception we have, as in perforation of the appendix, sudden attack of severe pain, vomiting, constipation, and tumour of the abdomen; but the pain in the former is more colicky and intermitting, the vomiting and constipation more severe, the tumour is better defined, harder, less tender, and there is almost always either hæmorrhage or the passing of blood and mucus, whilst there is an absence of the tension and tenderness, of dulness and gurgle on percussion in the hypogastrium or right iliac region, as in perforation of the appendix.

In typhlitis you have also pain and tenderness in the right iliac region, together with the presence of a tumour; but it differs from the ordinary cases of perforation of the appendix in its onset being more gradual, in the pain, tenderness, and constitutional disturbance being comparatively trifling, in the absence of frequent vomiting, and in the tumour being well defined. But where perforation has taken place in an appendix situated close to or behind the cæcum, it may be impossible to distinguish between it and ulceration commencing in the cæcum itself. But you should remember that the latter is very rare excepting in phthisical subjects. Judging from my own experience, I should advise that whenever you observe the tumour in a case of typhlitis very slow in disappearing you should suspect perforation of the appendix and watch the case most narrowly.

There is a form of acute tubercular peritonitis, of which you have lately seen an example in our wards, which may be confounded with perforation of the appendix; for you have pain and tenderness of the hypogastrium, dulness on percussion, and fever. In the former the onset of the disease is more gradual; the pain and tenderness are more general; there is no distinct tumour or increased tension in the hypogastrium; if there is dulness on percussion, the line generally varies with the position of the patient; diarrhœa is urgent; and there are, in most cases, some signs of consolidation in the lungs. The absence of tumour in the iliac region or in front of the rectum is, however, the chief point; for, as we have already seen, where perforation occurs in phthisical subjects there is generally very slight pain, and severe diarrhœa is often the only prominent symptom. We have lately had two cases in the wards which might, perhaps, give rise to doubt; one being an instance of inflammation of the connective tissue of the pelvis, the other of retro-uterine hæmatocele. In the first, the patient, a female, had been suddenly attacked with pain in the side, followed by fever and a sense of fulness and great tenderness in the iliac region, with flexure of the thigh upon the pelvis. But, as is most general in such cases, the left side was the seat of the mischief, the symptoms came on after a miscarriage, and, on examination by the vagina, a soft, diffused, painful swelling was discovered to the left of the uterus. An abscess shortly after this formed in the left side and was opened. Such cases would only give rise to doubt, when they occur on the right side, and where, as occasionally happens, the perforation of the appendix produces an abscess around the cæcum, and involves the stuctures in the iliac fossa; but a careful examination by the vagina and rectum, which should never be neglected, would at once reveal the true nature of the case. In the second case, which was one of hæmatocele, the patient had been suddenly attacked with pain in the abdomen, and on admission a painful swelling was detected on the right side of the hypogastrium. But the symptoms had appeared at the catamenial period, the patient was very anæmic, and on examination by the vagina a large swelling was found blocking up the pelvis, pushing forward the uterus, and compressing the rectum. Such a case could only be confounded with perforation of the appendix by the practitioner neglecting an examination by the vagina. You will probably think it unnecessary to discuss the probability of a disease of the right ovary being mistaken for perforation of the appendix, but the chance of such an error has been mentioned by some authors. The examination by the rectum or vagina would in most cases suffice to settle the question, for the clear, well-defined edge of an enlarged ovary is very unlike the diffused, elastic swelling arising from local peritonitis, and in addition to this the ovarian disease is a chronic malady, the other is acute. Still more unlikely is it that you should confound an enlarged kidney with the disease in question. Renal diseases of this kind are always chronic, the tumours formed by them lie deeply behind the colon, and can be traced backwards to the loin, and the urine contains blood or pus. In one case, however, I met with a renal tumour lying behind the cæcum; but there was little pain or tenderness, no vomiting or constipation, and the urine contained blood.

In the earlier cases of perforation of the appendix placed on record venesection seems to have been generally trusted to as the only means of cure, under the impression that the disease was of a purely inflammatory character. It is scarcely necessary to say that such treatment proved of little benefit, inasmuch as the inflammation was the result of the introduction into the serous sac of a decomposing, or at any rate of an irritating, material which no amount of bloodletting could remove. Its only effect was to lower the vital powers of the patient, and thus to diminish his chance of recovery by adhesion of the injured part to some of the neighbouring organs. Other cases were treated by the use of drastic purgatives, on the supposition that the symptoms resulted from intestinal obstruction; but although in most cases the bowels were readily opened, the fatal termination of the disease was not thereby obviated. On the contrary, the use of aperients proved to be so detrimental that they were entirely abandoned in this as in other forms of peritonitis. Of late years opium has been generally employed, but there has been no diminution in the mortality of the disease. I have prescribed it in every case that has come under my notice for some years, either alone or along with belladonna; it has always relieved the pain, lessened or altogether subdued the vomiting, given sleep, and proved an immense comfort to the patient, but in no single case has it appeared to avert the fatal termination.

Another plan of treatment has, however, been successfully adopted—viz., that of laying open the abscess formed around the perforation and allowing the pus to escape. The earliest case on record is one performed by Mr. Hancock, which ended in the recovery of the patient. Twenty years afterwards Dr. Parker of New York operated upon a case successfully, and Dr. Gordon Ruck of New York has collected thirteen cases of this operation, of which twelve recovered and only one died. I have twice advised this procedure; in the first case it was not performed until the patient was evidently sinking, but pus was found and evacuated; in the second, which was a very chronic one, the abscess was opened and recovery ensued. I have before mentioned that fluctuation can rarely be distinguished in abscesses of this kind, and out of ten recorded by Dr. Ruck it could be felt in only one, proving that there is no necessity to wait until this sign of abscess can be discovered. None of the above cases were operated upon before the seventh day, and, with one exception, the operation was not attempted until between the seventh and the fifteenth day; but we have already seen that forty out of fifty-seven cases died during the first week of illness, so that if the rule should be followed, as has been hitherto laid down, of waiting until the pus is completely localised by adhesions, the operation will be restricted to a very small number of those who are attacked with this formidable malady. Theoretically it would seem to be much better if we could cut down upon the appendix as soon as the diagnosis was tolerably certain, tie it above the seat of the perforation, and remove from its neighbourhood any concretion or decomposing material that might be the cause of irritation. The only objection that I can see to an early operation is that adhesions to the neighbouring organs might be prevented; but when we reflect how very rarely the fortunate termination occurs, and how certainly death follows if it does not take place, we may, I think, dismiss the objection from our consideration. But even when adhesion does result from perforation, the fatal issue is in most cases only postponed, for, as we have before shown, the adhesions are often torn asunder by some undue exertion of the abdominal muscles, and fatal peritonitis ensues.

Two methods of operation have been pursued: in one an incision has been made directly into the suppurating part and the pus at once evacuated; in the other the incision has only been carried down to the fascia, and either the pus has

been allowed afterwards to escape spontaneously or an aspirator has been passed into the most depending portion of the swelling and the contents thus evacuated. It is evident, however, that if an operation were performed at an early period the incision must be carried down directly to the injured part; for we cannot suppose that pus would be formed and localised until many days after the perforation had taken place.

The choice of the method of operation must of course be left to the discretion of the surgeon, and will probably require to be varied according to the circumstances of each case. Of one thing we may be quite certain, that no drugs are likely to be of much avail; for your common sense will tell you that when you have an irritating material suddenly introduced into a large serous sac the only chance of giving relief is to remove it, and thus put a stop to the original cause of the mischief. The office of the physician, therefore, will most likely become restricted to diagnosis, and it is only by carefully watching the first symptoms and the physical signs of the disease and by comparing them with those of other disorders that may simulate it, that we shall be able to arrive at such a correct judgment as may justify the employment of surgical measures at an early period of the case.

CHOLERA.

BY MAX VON PETTENKOFER, M.D.,
OF MUNICH.

(*Continued from page 984.*)

I DO not doubt that instances may exceptionally be found amongst infectious diseases in which the behaviour is essentially the same as that of cholera on the ships going between Europe and New York. But the question is, How do such cases generally, not exceptionally, behave? Vaccinated persons may be brought into contact with cases of small-pox without fear of infection; and at times, individuals who have not been vaccinated may come in contact with small-pox without taking the disease. As a rule, however, small-pox on board ship behaves very differently from cholera. We shall pass in review an instance of a severe epidemic of cholera on board ship, notwithstanding that it favours the views and theories of the contagionists. The following specimen is chosen, for the reason that it occurred on a man-of-war, and as there are many such vessels the advantage of comparison exists. The *Britannia* was in the spring of 1852 equipped as an admiral's ship, and was generally stationed off Malta for the first year; in August, 1853, it went to Besika Bay, and in October to Constantinople, where it remained the whole winter; and, after the declaration of war, went in March, 1854, to Varna. With the exception of a brief expedition to Odessa and Sebastopol, it remained at Varna all through the summer. In August cholera broke out, and first of all amongst the troops on shore. The ship and the whole fleet were up to this time perfectly healthy. It was believed that the French had brought the cholera with them from the Dobrudscha, whence some regiments had been sent from Varna. A few of these returned, but the majority met with their death either from cholera, typhus, or marsh fever in the low country of the Donau. After the cholera had begun to subside on land it appeared in the fleet, amongst which it was, however, unequally distributed. At Varna there were assembled fifty-four ships of the line, belonging to the English, French, and Turkish fleets, without reckoning the smaller craft. The *Britannia* lay on August 20th in the bay of Cavarna, fifteen miles by water from Varna. About 100 paces from it were lying two other English three-deckers, the *Trafalgar* and *Queen*, both, like the *Britannia*, manned by 1040 sailors. The *Britannia* lost 139 from cholera, the *Queen* and *Trafalgar* 4 and 6 respectively. On the French and Turkish ships it was the same. Strange to say, the French admiral's ship, the *Ville de Paris*, like the *Britannia*, was most numerously affected; there were 162 deaths, of which 3 were of officers. During the disease the French vessel lay at anchor off the coast with the rest of the fleet. The *Britannia* went to sea in the delusive hope of staying the course of the disease. That cholera should rage on the *Britannia* without causing the death of, or even attacking, one of the sixty officers on board is for the contagionists an inexplicable circumstance. We must now inquire into the reason why cholera was so rife on the *Britannia* whilst the *Trafalgar* and the *Queen* were so mildly attacked. If the outbreak were due to the presence of cases of cholera, or to the linen from cases of cholera, on the ship, it might be urged that this circumstance was common to all the ships. Dr. Milroy has attempted to explain the epidemic on the notion that it was not due to the specific infective material, but to the individual predisposition to cholera. In the night it was found necessary, on account of the cases of diarrhœa and cholera, to close the hatchways on the lower decks while the ship was at sea. Dr. Milroy says: "The men appeared to be poisoned by the foul air which they had to breathe at night.....A more striking example of the deadly effects of impure air during the period of an epidemic, and of the most infallible means to check the evil, cannot be imagined. The immunity of the officers was, on this occasion, unquestionably due to the greater space for breathing purposes which the officers enjoyed." That is an explanation which must satisfy the practical physician. I also believe that impure air is harmful, but I do not think impurity of air sufficient to explain such an explosion of cholera as that above referred to. It must not be forgotten that the *Britannia* went to sea on account of the general poverty of its hygiene. We ought to inquire into the condition of other ships also attacked with cholera, but in which the hatchways of the lower decks were not shut. My witness, who was on board the *Britannia*, assured me that the air was by no means so impure as Dr. Milroy made out. Another mistaken notion which I had taken up was also set right. I thought hitherto that the closing of the hatchways of the lower decks was occasioned by the stormy weather. On this point my informant writes to me thus: "The matter was not quite as you seemed to have imagined, and it will perhaps be best if I give a brief description of what actually took place. The day following our departure from Cavarna Bay a calm overtook us, and instead of the desired cool breeze a burning sun poured down on our sick ship. Then there came a swell on the waters, but no wind. In consequence the ship was so violently tossed that the hatchways of the lowest deck where the crew slept had to be closed, and then followed the worst night, during which fifty-eight men died, a night without wind and without the slightest movement of the superheated air. Nothing was said of a storm. If we had but had one! That the shutting of the hatchways had any influence I do not believe; for owing to the heat the men were allowed to lie about where they pleased, and most of them betook themselves to the uppermost deck in the free air and slept on the floor. The physicians had consented to this arrangement, and under the canopy of heaven the bulk of the fatal cases occurred. In this connexion it must also be observed that the *Ville de Paris*, which did not go to sea, yet suffered as much as we did, in spite of the fact that the hatchways were not shut." So much for the explanation which regarded the shutting of the hatchways and the impurity of the air as the cause of the epidemic. The view of the contagionists meets with no better fate. That a cholera patient should arrive on board with his stools or soiled linen explains nothing, since this circumstance was common to many other vessels without being followed by such consequences. If the infective material were brought in the food and drink on to the *Britannia*, how is that only the crew and not the officers suffered? On this point my informant says: "Provisions came daily from the shore, even during the time we were fifteen miles away, but the officers ate the same meat, the same vegetables and fruit as the crew. The only difference was that the crew drank rum-and-water, whilst the officers had wine." Thus in the drinking water no difference obtained. Ballast might have been a vehicle of infection, and for this purpose sea sand and shingles, and other material, were taken from the shore. But I have been informed "that on the *Britannia*, as well as other English men-of-war, the ballast consisted only of so-called pig-iron, four-sided pieces, which were wedged together in the lowest part of the vessel, and never touched." We have yet to consider the different habits of the men and the officers while on shore before the outbreak of the epidemic. On this matter my informant writes:—"The sufferers, not only of the *Britannia*, but of the rest of the ships of the fleet, had frequent communication by daily visits with the shore as we lay off Varna, and the crew without doubt betook themselves to those poisonous liquors, and still worse places of pleasure, which had sprung up on shore

like mushrooms." It may be understood that the company of one ship would, like men of the same regiment, visit places of pleasure together and imbibe the same drink, and so it might happen that a particular crew visited a certain place where cholera prevailed, whilst other crews might have unconsciously kept clear of the places from which it is supposed cholera was taken. It remains doubtful whether the infection was derived through the air, water, or food. If these circumstances be viewed in an unprejudiced light, it will be seen that local conditions may account for the infection and spread of cholera on board ships. On emigrant ships the matter cannot be otherwise, and it is necessary therefore to inquire into the previous history of those who were taken ill on board. I have shown that the eleven cases of cholera which occurred on the *Westphalia*, bound for New York from Hamburg, came exclusively from two German families, and that an epidemic as vast as that which befell the crew of the *Britannia* might be explained if we supposed that a majority of it came from the same district or were placed under the same conditions as the two German families prior to their going on board. The exceptional outbreaks on emigrant ships prove that such an occurrence is possible. That the *Britannia* as a ship was not a place of infection is shown by the freedom from cholera enjoyed by the sixty officers. These points may possibly be cleared up by the appointment of a commission to inquire into the presence and etiological factors of cholera on board ship during epidemics of cholera. Koch has spoken of the occurrence of cholera on ships, and has attempted to reconcile matters on the basis of his doctrines of contagion. He has studied those ships which ply between North America and Calcutta. This line has not escaped my attention, and I have stated the main facts in my paper on "Cholera in India," 1871. Koch comes to the same conclusions as I did. Of 222 vessels which made the voyage during ten years cases of cholera only appeared on thirty-three ships, although they started from a district where cholera is endemic. It appeared to Koch only to be of importance that cases of cholera continued to occur more than twenty days on sixteen ships; therefore these cases could not have originated at Calcutta, but must have been derived from infective material on board ship. If cholera is acquired from the infective material on board ship, how is it that the infective matter is, as a rule, so ineffective and acts only exceptionally? If cholera lasts more than twenty days on board ship, then there must be other causes than those which prevail on land. Let it be assumed that the infective material proceeding from human beings can call forth the disease after the third day and up to the twentieth day. Now, cases of cholera have occurred on board ship as long as forty days after leaving port, of which fact I could give many examples. But these are very exceptional. May it not be assumed that in such cases the infective material might be brought on board and kept effective in some form or other, and that individuals might constantly come in contact with the infecting agent? For exceptional circumstances exceptional causes must be assumed. Properly considered, it will be found that cholera behaves on ships pretty much the same as ague does. When ships leave a malarious district cases of ague occur on board, but when further out at sea they cease to occur. As a rule the illnesses happen only in those individuals who come from shore, though exceptionally the disease shows itself in individuals who have never been ashore. But epidemics of ague have occurred on ships, as Hirsch has recorded in his work on "Malariakrankheiten," where the infection of the crew on shore appears to have been quite impossible, as on a ship which went from an Eastern seaport to England, and yet no one has ventured to say that ague is not dependent on the soil, or that it spreads on ships by contagion from man to man where the people have not been infected on land. The sweat of the sufferers from ague may be likened unto the stools of cholera patients. If the infectious disease, ague, were as dangerous as cholera, it is not unlikely that many more observations on contagion from cases of fever, and on the presence of ague on ships, would have been made and recorded. Any exceptional occurrence in the way of ague on ships would almost certainly be more likely to be recorded if they happened on men-of-war or emigrant ships than if they occurred on merchantmen, on the ground that the rare event is witnessed by a large number of men, and because the state of health of men-of-war and emigrant ships is more carefully registered than is the case with smaller vessels.

(To be continued.)

THE EXTINCTION OF CHOLERA EPIDEMICS IN FORT WILLIAM.

BY A. C. C. DE RENZY, C.B.,
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PROFESSOR PETTENKOFER, in his paper published in THE LANCET of Nov. 22nd, page 904, writes as follows:—"Koch was further strengthened in his views from the fact that after Fort William was supplied with water no more cases of cholera occurred there, although it had formerly been ravaged by the disease. The gentlemen in Calcutta, however, had not told Koch the whole truth. It was a fact that cholera had begun to decrease in Fort William since 1863, and yet the fresh water-supply was introduced as late as March 25th, 1873." A statement substantially similar to this is made by Deputy Surgeon-General Marston, in his letter published in THE LANCET of Sept. 20th, page 520. In a paper which I read last year before the Epidemiological Society, I referred to the case of Fort William as confirming, with almost the completeness of a demonstration, the opinion long held in this country that somehow or other cholera is mainly communicated through the medium of water. The opponents of this view now find it necessary to deal with this case, and their method of doing so is shown in the extract already given. It is impossible to deny the fact that Fort William was ravaged with cholera at short intervals for upwards of a century, and that for the last eighteen years the disease has abated to such an extent that though it was rarely entirely absent, it has never assumed an epidemic character. Fort William was formerly one of the most unhealthy stations in India. The death-rate of the British troops for a long series of years as given by the Royal Commission on the Sanitary State of the Army in India was 68·96 per 1000, and for the ten years ending in 1856 it was 102·35 per 1000; in the eighteen years ending in 1882 it was only 12·35 per 1000. This extraordinary transformation will appear more striking if it be remembered that during the latter period cholera has again and again prevailed with terrible virulence in the villages in close proximity to the fort, and also in many parts of Calcutta itself. I think it of great public importance that the facts of this case should be placed clearly and indisputably on record. Professor Pettenkofer says that while the cholera in the fort had begun to decrease in 1863 the fresh water-supply was only introduced in 1873, and therefore the two events could not have been related as cause and effect. But the Professor seems quite unaware of the fact that changes in the water-supply began even earlier than 1863, that they had been carried out to very considerable completeness by 1865, and that in 1872 the existing state of things was attained when the Calcutta municipal water was laid on in pipes all over the fort.

I now propose to show by extracts from official reports what was the state of the water-supply in the time of the cholera epidemics, and what were the subsequent changes made in it in the period corresponding to the cessation of the epidemics.

In the appendix to the Report of the Royal Commission on the Indian Army (1860), page 10, the water-supply of the fort at that time is thus described:—"11. The water used for drinking is brought from a large tank on the glacis by native water-carriers. The tank is filled by surface drainage; it is kept perfectly clean, and is *generally* free from foul drainage surface impurities. From the well-known careless habits of 'bhistis' (water-carriers) and native servants, it may not be unfairly assumed that water is sometimes taken from nearer and impurer sources of supply in the ditch." In connexion with this last remark, it must be borne in mind that all the water required for the use of the troops had to be conveyed, in many cases to a considerable distance, by human labour, in leather skins, and that consequently the temptation to resort to a near source of supply was very strong. The ditch water was largely tainted with the sewage of the fort; it was the most convenient for use, and it was not submitted to filtration of any kind.

The improvements contemplated are thus described in the Royal Commission Report (par. 12):—"The supply of water available for the station is sufficient for drinking and washing, but not for bathing. In consequence the Fort William Special Committee have recommended a steam pump for the purpose of bringing into the fort from the river a due supply

of water for all purposes. The number of gallons was fixed at 30 per head, and provision was to be made for filtering 90,000 gallons. The river being unsuitable for six weeks annually, masonry tanks within the fort, having a storage space for two months' supply of pure water for drinking and culinary purposes, have been recommended." Such was the plan proposed, but a different one was adopted. The rainfall on the "maidan" or plane in front of the fort was collected by means of a system of surface drains into two tanks situated at the foot of the glacis.

Dr. Macnamara, the well-known chemist, who took such a distinguished part in urging the importance of improving the water-supply of Calcutta, in his report on the analysis of potable waters, describes the fort supply as follows:—"The tanks are large, and well kept and guarded. Between the tanks is a masonry cistern, which on the opening of sluice-gates can be connected with both or either tank, but before entering the cistern the water has to pass through a considerable thickness of sand and broken brick. From the cistern the water is raised by means of a pump worked by a steam engine to a cistern on the ramparts, and is thence distributed to the stand-pipes placed about the fort. In order to raise water to the level of the upper storeys of the barracks, it is during a part of the day forced up to a lofty syphon-pipe, the level of which is above the level of the barracks." This system, which took some time to carry out, was completed in 1865.[1] Dr. Macnamara, in speaking of the results of his analysis of the water, says, "The dissolved organic matter in the tanks is small in amount, and the water is evidently improving. In September, 1866, a gallon of the water held in solution 13·7 grains of inorganic matter. This September [1867] I found that quantity reduced to 7·7 grains. The water was refiltered in the barracks through the old style of filter. Great attention was paid to the filtering during the time the 3rd Brigade of Rifles garrisoned the fort, and the filtered water was always when I examined it physically good, but the filters added slightly to the amount of the oxidisable organic matter."

In 1868 there appears to have been found a marked deterioration in the water of one of the tanks. Dr. Palmer, the analyst, in his report says, "The water of both tanks having been collected under precisely similar circumstances from the same gathering ground, it would be supposed that the examination of each would be attended with similar results. While, however, the water of the old tank yielded 170 grains of impurity per million, that of the new tank contained 260. The greater impurity in the latter case arose from the presence of soluble materials in the newly dug soil, and that much of this material had its origin in decayed animal matter is proved by the great excess of nitrates and chlorides found in the water." Dr. Macnamara also, in writing of this year, says, "There can be no doubt that the water of the tanks which supply Fort William needs, especially during the continuance of the rains, very efficient filtration to render it thoroughly wholesome. The present filters of sand and broken brick are insufficient, for the water of the stand-pipes in the fort is at all times far from being transparent. The filters, too, altogether failed during the rains." After this the filtering process appears to have improved greatly, for whereas in 1868 the water contained 1·6 per million of albuminoid matter, the proportion ranged subsequently between 0·31 and 0·88 per million.

From what has been stated it will have been seen that during the period of the prevalence of cholera epidemics the water-supply was subject to very little supervision, that it was taken from very dangerous sources, and distributed in a barbarous way. By 1866 the supply had been placed under strict supervision and control. Elaborate arrangements had been made to secure the tanks from pollution, and although the results had not been as satisfactory as was desirable, the standard of purity was immeasurably higher than it had been in the epidemic era. Such being the facts of the case, it appears surprising to me that a man like Deputy Surgeon-General Marston, who had ample means of making himself acquainted with them, could imagine that the question of the improvement in the health of the garrison being the effect of the improvement of the water-supply was to be disposed of by saying that an Order in Council exists refusing to sanction the introduction of the municipal water, and that the health of the garrison had been good for some years before that water was brought into the fort. He altogether ignores the improvements that had been in progress for at least seven years in the source of supply, in filtration, and the system of distribution. It is quite true that the Order in Council referred to was issued. As the introduction of the purer municipal water involved an outlay of Rs. 15,000 for fittings, and an annual charge of Rs. 23,000, the Sanitary Commissioner advised the Government not to sanction it, but wiser counsels afterwards prevailed. To ensure the efficient working of the old system, unremitting vigilance was indispensable, and it was seen to be safer that the fort should be supplied with municipal water, the purity of which was guaranteed by the supervision of highly trained officers exclusively occupied with that particular duty.

As Professor Pettenkofer finds it difficult to surrender the opinions he has so long advocated with such ability, he tries to discover an explanation of the cessation of the epidemics in Fort William in some other condition than the improvement of the water-supply. In continuation of the passage I have quoted from his paper, he says, "Moreover, it was not true that the only improvement effected was the water-supply, for many other changes were carried out, the fortress being made a model of cleanliness. Alterations in the drainage of the soil were effected in and around the foundations of the buildings, which was before nothing but a morass during the rainy season." Now there can be no doubt that there has been great improvement in surface cleanliness since the epidemic era, but there has been the same improvement in other stations without any corresponding change in the prevalence of cholera. I challenge Deputy Surgeon-General Marston, who knows India well, to say whether Fort William is a bit cleaner than Mianmir, Lucknow, Fyzabad, and other stations which are notorious for cholera. For many years the stations of Upper India have been models of cleanliness, but in spite of this they frequently suffer terribly from cholera.

Then as to the alterations in drainage, I do not know on what authority Pettenkofer writes. All I know is that in the long series of reports by the Sanitary Commission, extending from 1864 downwards, no mention is made of such works. A drain may have been cleared out here and there, but no subsoil drainage of any kind was carried out, nor was any such scheme proposed by the committee which drew up the replies to the queries of the Royal Commission. The fact is, there are insurmountable difficulties in the way of drainage owing to the lowness of the site, which is only one foot above the mean level of high water of the Hooghly during the rains. The site is surrounded by rice fields and vast swamps which it is utterly impossible to drain. It was to these swamps, which remain to-day as they were thirty years ago, that the committee referred to attributed the malarious influences that affected the troops in the fort. But there is striking proof that the cessation of cholera epidemics among the British troops was not due to any alterations in drainage, for in 1866 the native troops, who had not at the time overcome the prejudice against pipe water, lost 26 per 1000 of strength from cholera, while the British troops lost only 2·0 per 1000; and in 1869, again, the native troops lost 4·8 per 1000, while the British troops entirely escaped. Since the native troops have taken to the use of the new water they have shared in the improvement in health which has been so conspicuous in their British comrades. Moreover, cholera occurs in a most distinctive form at stations where the soil is singularly free from moisture. I instance the case of the Peshawar cantonment, so notorious for cholera, and where the subsoil is perfectly dry to a depth of 100 ft. from the surface. Anyone who knows Mianmir, too, will see the absurdity of attributing the terrible epidemics which have visited that station to defective drainage. The subsoil is so utterly devoid of moisture that no trees can be got to grow without abundant artificial irrigation. On the other hand, Fort William is now free from epidemic cholera, in spite of bad drainage and in spite of being hedged in on all sides by villages that are never free from cholera. The troops have free access to those villages, and there are few years in which two or three cases of cholera do not occur among them, but the disease is no longer capable of assuming epidemic proportions. For upwards of a century the fort was scourged with cholera; for the last eight years it has suffered very little, while during the same period other stations quite as cleanly and with better barracks, better drainage, and an infinitely better climate, have suffered severely. How is this fact to be explained? It is due, in my opinion, to the fact that the fort has had a fairly good water-supply, while in the other stations of Upper India the supply is taken from sources exposed to innu-

[1] Vide Report of the Sanitary Commission for 1865.

merable contaminations, and is distributed in a barbarous fashion, which would render a water taken from a pure source dangerous for use. Being fully acquainted with the sanitary condition of every station in the Punjab, I feel confident in stating that no epidemic of cholera has occurred at any place in that province where the water-supply was even moderately good. I am aware that statements contrary to this have been often made in official reports, but I could, if necessary, give details and descriptions of the water-supply in each case that would amply corroborate my assertion. Bad water is a condition common to all the places infested with cholera, however widely they may differ as regards soil, climate, drainage, elevation, or other sanitary conditions.

In the late Afghan campaign the water-supply arrangements could hardly have been worse if they had been specially designed to favour the propagation of a water-borne disease, and to that and that alone the terrible losses of the troops from cholera are attributable. In view to the prevention of such calamities in future, I would strongly urge that the case of Fort William should be investigated by an independent Commission, whose report would carry weight with the Government

Years.	Death-rate per 1000 from cholera.	Death-rate from all causes, cholera included.	Remarks.
A long series of years, as given by the Royal Commission	—	68·96	—
Ten years ending in 1856	—	102·35	—
1859	6·87	25·94	—
1860	33·39	51·75	—
1861	8·52	21·78	—
1862	14·77	35·23	—
1863	5·37	22·82	—
1864	2·53	21·52	—
1865	1·27	13·94	New water-supply completed.
1866	2·32	17·42	—
1867	2·71	10·83	—
1868	5·83	24·47	—
1869	None	18·81	—
1870	2·29	12·57	—
1871	None	10·0	—
1872	1·21	14·49	Municipal water introduced.
1873	1·16	9·31	—
1874	1·05	15·72	—
1875	None	6·51	—
1876	3·21	10·71	—
1877	1·17	12·87	—
1878	2·13	9·56	—
1879	None	5·33	—
1880	None	11·55	—
1881	1·08	4·32	—
1882	1·04	13·50	—

and the public. I believe the case is full of instruction as to the measures necessary for the prevention of cholera epidemics. In many up-country stations the death-rate of British troops has in recent years been as high as 70 per 1000, and in some it has been as high as 100 per 1000; while in the eighteen years between 1865, when the water-supply was reformed in Fort William, and 1882, the latest year for which returns are available, the average death-rate of that station was only 12·35 per 1000. What has been accomplished in Fort William might surely be effected in the healthier stations of Northern India. Nor does the case of Fort William stand alone. At Bombay, Nagpur, and in the European quarter of Calcutta there has been a marked decrease in the prevalence of cholera following closely on the improvement of the water-supply. It is most desirable that it should be authoritatively settled how far those phenomena are related as cause and effect. My firm belief is that with a well-managed water-supply the British troops all over India would be *almost entirely free* from cholera, and would have very nearly as low a death-rate as the troops quartered in the United Kingdom. The above table shows the death-rate amongst the British troops in Fort William previously to and subsequently to the improvement of the water-supply.

AN UNUSUALLY SEVERE CASE OF

SYPHILIS ACQUIRED WITHOUT ANY PRIMARY SORE.

BY STENSON HOOKER, L.R.C.P., &c.

THE subject of the following case, whom I will call A. B——, is a medical man, aged thirty, practising in a small country town where cases of acquired syphilis are anything but common.

A. B—— has always led a strictly sober and chaste life. He was in his usual health in February last, when a gentleman's servant presented himself at the surgery to be treated for a thin, watery discharge from the urethra and nocturnal emissions. There was a very insignificant sore under the glans penis, so small indeed that it could only be called an excoriation. A. B—— examined this carefully, and resolved to leave it to take care of itself, the result being that it healed up in a fortnight. The other symptoms were treated, but not syphilitically, and the patient so far improved that towards the end of the month he ceased to attend. In about seven weeks after this, A. B—— began to suffer from very severe frontal headache, both night and day, but worse at night. This increased in severity, and soon partook of a constant stabbing, lancinating character. It was thought that he needed rest and change. No idea of the real nature of the case was as yet suspected. Had he had a scratch on the finger, to say nothing of a sore, the true cause of the pain would probably have been divined; but he emphatically avers (and the averment may be implicitly relied upon) that for some years past he has not had any lesion of the skin in any part of the body, and has run no chance of being syphilitically infected excepting by the servant mentioned above. He now went to the seaside, and a few days afterwards general periostitis of the skull set in, and was so aggravated that the whole head was a mass of nodes of the size of walnuts, the pain being most excruciating. At this time he was closely questioned by a medical friend as to any possible way whereby his system might have been poisoned with syphilitic virus; but after what has been said I need scarcely add that the malady could not be traced to a primary sore. General cervical cellulitis appeared next, with great enlargement of the post-cervical glands; there was now also (about six weeks after the commencement of the headaches) a lichenous rash which covered in a uniform mass the whole of the trunk and extremities; simultaneously with this the tonsils were badly ulcerated, and it was not till then that A. B—— could be got to acknowledge that he was suffering from many of the symptoms of that protean disease syphilis. Iodide of potassium was now taken vigorously, and the pain gradually abated. He was at this time returning to his work, and on his way consulted in London one of the greatest authorities on this particular disease, the throat being still ulcerated, and the rash only beginning to fade. This gentleman told him that there was not the slightest doubt as to the nature of the malady, and carefully examined him for evidence as to primary sore, but none, of course, could be detected. Mercury-with-chalk pills were ordered, and under this treatment the throat rapidly improved and the rash disappeared by desquamation; but for the next twelve months A. B—— suffered from deep fissures and recurrent ulcerations of the tongue, with congestion of the ciliary vessels of the eye, and loss of hair.

Now I can most conscientiously aver that this medical man presented himself as a sad example of one in whom, in spite of all his symptoms, there had never been any primary affection; through what particular channel the poison was absorbed is still, and must as far as I can see, remain a complete mystery; that he never had a chancre I can again most positively aver. A. B——'s patient, it should be said, returned for treatment, this time suffering from the same unmistakable syphilitic symptoms.

Midhurst.

AT Bow-street Police-court, on the 4th inst., Dr. John Cran was charged with a contravention of the Act for the Regulation of the Care and Treatment of Lunatics by unlawfully receiving two or more lunatics in his house without procuring the necessary licence. The case was adjourned.

A DEMONSTRATING VAGINAL SPECULUM.

BY H. MACNAUGHTON JONES, M.D. &c.,
EXAMINER IN OBSTETRICS, ROYAL UNIVERSITY OF IRELAND, ETC.

THE desirability of having such a speculum as would enable the surgeon to demonstrate to a student or students the os uteri and infra-vaginal cervix, in a different manner from that now adopted, and without exposure of the patient, often struck me in hospital work. By such an appliance as that made for me by Messrs. Maw, Son, and Thompson, this can be perfectly achieved. The drawing (Fig. 1) shows the

FIG. 1.

One-fourth size.

appliance attached to a speculum. It consists of a nickel-plated steel bracket with three joints, as shown in the figure, which are so constructed as to enable the mirror to be placed at any angle or plane to the orifice of the speculum, from which it is twenty-five centimetres distant. A ring with a groove receives the mouth of the speculum, and will fit any large-sized speculum. The ring is clamped by means of a screw. (This clamp I am having improved.) But this may be so arranged that any sized ring can be applied so as to embrace a smaller speculum. At the other end of the bracket is a mirror, which works in a universal joint. It is three inches in diameter. If it be wished to get a magnified image, a slightly concave mirror can be attached. The entire appliance is shown folded in Fig. 2. It fits into a leather case, and is quite portable.

FIG. 2.

One-fourth size.

By means of this instrument the lips of the os uteri can be seen, either by sunlight or artificial light, several feet away. The patient need not be in the least exposed during the demonstration. The teacher having introduced the speculum and having caught the reflection of the uterus at the plane required, turns the mirror so that anyone standing behind him or at the side, and looking into it, can see both the os uteri or any application which is made to it. It is not necessary to expose more than the orifice of the speculum.

Harley-street, W.

ON NERVI, NEAR GENOA, AS A WINTER HEALTH RESORT.[1]

BY EDWARD HAUGHTON, M.D., B.A., &c.

NERVI is situated about seven miles and a half east of Genoa, just at the head of the gulf, and is well sheltered on the north and east against cold winds. In Cook's Guide to the Riviera it is spoken of as having "come into repute recently as a winter residence owing to its mild climate and sheltered position." It is also briefly described by Dr. C. T. Williams, in his "Climate of the South of France," in the following words: "Nervi, on the Eastern Riviera, about an hour's drive from Genoa, stands on a ledge of level ground which descends in rocky masses into the Mediterranean, here affording boating, bathing, and tolerable fishing. The place is well sheltered to the north and east by wooded hills, on whose sunny slopes the orange and lemon flourish. Olive-groves besprinkled with villas and picturesque hamlets rise about the village, and the view from this spot of the Bay of Genoa and the Col de Tende range is exceedingly beautiful. A good hotel and boarding-house (Hôtel d'Angleterre) with well-sheltered grounds, pleasant walks and rides, and its short distance from Genoa, render Nervi attractive to invalids, many of whom have safely wintered here."

For some unexplained reason the number of English visitors seems to have diminished, and their place to have been supplied by Germans, the proprietors of several of the hotels and boarding-houses being of that nationality.

Not being satisfied with getting accounts at second-hand about the climate and capabilities of Nervi, I determined to pay a personal visit to the place, which I did about the middle of last February, leaving snow and sleet behind me in Basle and Lucerne and several of the northern Italian cities. I also made a point of visiting Pegli on the same day, and then returning to sleep at my hotel in Genoa, so as to make a really satisfactory comparison of the amount of shelter from cold winds afforded by the three localities respectively. The result was that the wind, which was bitterly cold at Genoa, was much milder at Pegli, especially in the valley behind the town, whilst it was perfectly calm and even warm at Nervi, so long as the headlands which protect the place were not rounded by the visitor, who literally has a haven of refuge there, which he should remain within so long as the wind blows persistently from the north or east. It is probable that Nervi remains, so to speak, in an undeveloped state as a health resort from one or two causes which are not likely to be permanent. In the first place, the through traffic to and from Rome goes past it without stopping, or at inconvenient hours for alighting, and the sanitary arrangements of the place, although it has been hitherto absolutely free from epidemics, will need a little overhauling before they are quite agreeable to noses and eyes polite.

The scenery of Nervi is in some parts beautiful in the extreme. As for instance, if we climb the hill at the back of the town and look down on the valley beneath, or stroll along the sea shore, and listen to the murmuring of the waves amongst the rocks, which are here permitted to retain some of the wildness which constitutes one of the principal charms of the neighbourhood. It is to be regretted that the principle of *laissez-faire* is carried so far as to permit strangers to be annoyed by lazy mendicants, and to allow all kinds of refuse to lie about exposed to the sun amidst the very loveliest part of the walk by the sea shore. Various circumstances have convinced me that a bright future lies in store for this pretty watering-place; and I hope, when sanitary zeal is really developed amongst its population, that its authorities may not copy too exactly or servilely the methods adopted in other fashionable localities. Warnings abound on every hand against such a course. First, we have sporadic cases of typhoid at Cannes, then an actual epidemic at Nice, just in the midst of an International Exhibition, and after an immense expenditure of money on "drainage" in both localities. It seems as though many engineers disbelieve altogether in the use of traps of the good old-fashioned **S**-shape; whilst almost all are afflicted with the superstition that it is only necessary to convey solid refuse into the sea, or even into a lake, in order effectually to get rid of it for ever. It is true that the shores of the British Islands are daily washed by a strong tide which dilutes, if it does not always remove, the more noxious and offensive refuse which we continually pour into it. But to attempt to carry out the same idea on the shores of a Swiss lake, or even the Mediterranean sea, is likely to lead to more lamentable consequences than would be believed if we did not see them actually taking place. There is abundant and unimpeachable testimony as to the horrible accumulation of sewage of the most offensive character in and around the harbours of both Toulon and Marseilles, the very places which are now (August, 1884) enduring the scourge of cholera, and which will probably act as centres whence this vile result of inhaling concentrated filth will be propagated over a large portion of France, and possibly even of Europe at large. Some of the most fashionable of the resorts of the Western Riviera have adopted wrong methods of disposing of their sewage; and it is only a question of time how long their popularity can possibly last. They are also intolerably dear, and treat the unhappy valetudinarian as though he were their natural prey. Are we to be accused of fickleness if we respectfully decline to be fleeced? Those places which give the best value may reasonably expect the most custom, and there is no good reason why accommodation of a very excellent kind, with

[1] Read at the last meeting of the British Medical Association in the Public Health Section, August, 1884.

sea-bathing in a mild climate and charming scenery, should not be accessible within forty-eight hours to all who are willing to endure a couple of hours' sea passage between Dover and Calais. The train service is good, and there is no reason in the nature of things why the expense of living at Nervi on good wholesome diet should exceed the cost of London living to the great majority of invalids.

I will not give a list of diseases for which I consider the climate adapted, but content myself with saying that nervous and dyspeptic cases are likely to be quite as much benefited as those in which the chest is affected; whilst in kidney affections the best results have been obtained without any special regimen, and without the alternative of unlimited swallowing of nauseous mineral waters.

Upper Norwood, S.E.

A Mirror OF HOSPITAL PRACTICE, BRITISH AND FOREIGN.

Nulla autem est alia pro certo noscendi via, nisi quamplurimas et morborum et dissectionum historias, tum aliorum tum proprias collectas habere, et inter se comparare.—MORGAGNI *De Sed. et Caus. Morb.*, lib. iv. Proœmium.

ST. BARTHOLOMEW'S HOSPITAL.

CASE OF SPINAL CONCUSSION, WITH PROBABLE FRACTURE OF THE CERVICAL SPINE; RECOVERY; REMARKS.

(Under the care of Mr. THOMAS SMITH.)

FOR the following notes we are indebted to Mr. Alfred G. Francis. See THE LANCET, July 5th, 1884, for two cases under the care of Mr. Bryant at Guy's Hospital.

Richard D——, aged twenty, a waiter, was admitted on June 1st, 1883, into Rahere ward. He was with some friends at a swimming-bath, and dived from a distance of seven feet off a spring-board into the bath, which was seven feet deep at that spot. According to his own account he struck the vertex of his head violently against the bottom of the bath in the region of the fronto-parietal suture, and immediately lost all control over his limbs. He was lifted out of the bath by his companions, who dressed him and conveyed him in a cab to the hospital, taking no special care to prevent movement of his head.

On admission, the patient was quite conscious, and had been so ever since the accident, which he described with some minuteness. He had not been sick, pupils were natural, there was no deafness, no hæmorrhage from the ears, no facial paralysis, no strabismus, no loss of sensation over head and neck; he spoke fluently and distinctly, there was no loss of memory, there was no bruise, swelling, or tenderness over the part said to be struck, but the patient is an expert diver, and persisted in his statement. Sensation was much impaired in the hands and feet, which were cold, bluish, and numb; he complained also of burning and tingling pain in the upper extremities, extending from the fingers to the shoulders; sensation was apparently not impaired in any other part. Respiration was nearly entirely diaphragmatic, the intercostal muscles apparently hardly assisting at all; there was some slight facial cyanosis. He had lost all control over both arms and the right leg; when these limbs were raised they fell helplessly again; over the left leg he had more control, but the power of movement was much impaired. He had not micturated since the accident; there was priapism on passing a soft elastic catheter, and on touching the skin near the penis; patellar-tendon reflex was not impaired; there was no ankle clonus. There was occasional aching pain at the back of the root of the neck in the median line, not very circumscribed; this was increased by movement of the head from side to side, and from before backwards, and on pressing the head downwards on the spinal column; there was also great tenderness in the same region, but no swelling, bruise, or apparent displacement; but a very complete examination was not made.

The patient was placed on his back upon a hard mattress with a pad under the back of the neck, and the head and neck were kept immovable by means of heavy sandbags. He was ordered milk diet and beef-tea.

June 2nd.—Had a sleepless night; urine natural, drawn off by a soft elastic catheter.

3rd.—Slept fairly well after a subcutaneous injection of morphia; urine drawn off, natural.

4th.—Feels a little better; slept after a morphia injection; can pass his urine now; no priapism; urine natural.

5th.—Sleepless night without morphia; can cough, but with difficulty.

6th.—Better; good night after a morphia injection; increased power over limbs; pulse 56.

7th.—Restless night without morphia; has not defecated since the accident (seven days); tongue slightly coated with white fur; pulse 70.

8th.—Bowels open freely; good night after morphia draught.

11th.—Restless night without morphia; aching pains in lumbar back and between scapulæ, more acute at night; temperature 99·6°; tongue coated with white fur; pulse 56. Left leg normal; can raise right thigh and keep it flexed for a short time; if the left forearm be flexed he can keep it in that position for a short time, and move the left arm from the side. There is no improvement in the right arm.

14th.—Respiration now slightly thoracic; less pain in the back; slept fairly well after morphia draught; appetite improving; bowels not open for three days; temperature 99°; tongue clean; power over limbs less impaired; left leg natural; right leg natural excepting the toes, which cannot be flexed and are cold and numb; left arm much better, can flex elbow and abduct shoulder-joint, and when the limb is raised it can be kept in that position for a short time, the shoulder-joint can also be slightly flexed; right arm, flexion of elbow improved and slight power of flexion and abduction of shoulder-joint; hands are powerless; the tingling, burning, and numbness of upper extremities are better and confined to the hands; they have been kept wrapped in cotton-wool, the tingling disappears if the hands are well rubbed, but it is increased by cold and washing; the neck can be slightly flexed by the patient, and there is freer rotatory and lateral movement, but all movements are still attended by pain.

July 14th.—Has steadily improved in every way; though weak is rapidly gaining strength; has been up for some time and goes out of doors daily; paralysis is limited to right arm and hand; there is no tingling; the neck is supported by a firm leather collar which keeps it immovable; there is still slight pain in the region of the fracture. Patient is on full meat diet.

Aug. 8th.—There is now only some stiffness in the movement of the right hand, which cannot be so quickly and firmly closed as the left, but the grasp is fairly strong. There is stiffness on turning the head and slight pain in the neck, as before. He is much stronger, and attends as an out-patient. The collar is still worn.

The temperature has never been above 99°, except on two occasions soon after admission, when it rose at night to 100·6°.

Remarks.—This case is especially interesting as an example of spinal concussion resulting from a blow on the head. As M. Duret has pointed out in these cases, there were symptoms especially referable to lesions of the medulla oblongata, which suffers from the resistance it offers to the sudden passage of the cerebro-spinal fluid from the cranial cavity to the neural canal. In addition to the concussion of the cord from the increased tension of the cerebro-spinal fluid, there was probably some additional injury to the cervical portion of the cord, with a special train of symptoms. This might be accounted for by supposing that there was a fracture of some part of the cervical spinal column, and the physical signs present on admission would to a certain extent support such an hypothesis. The absence of any evidence of a blow on the vertex, although uncommon, as well as the slight character and short duration of those symptoms especially referable to the general concussion of the cord, may be justly ascribed to the buoyancy of the water, which lessened the severity of the blow; those symptoms which depended on the severer lesion caused by the fracture, although temporary, were of much longer duration.

QUEEN'S HOSPITAL, BIRMINGHAM.

CASE OF PRIMARY ENCEPHALOID GROWTH OF LUNG; NECROPSY; REMARKS.

(Under the care of Dr. SUCKLING.)

FOR the following notes we are indebted to Mr. Sidney C. Lawrence, M.R.C.S., L.R.C.P. Lond., house-physician.

T. C——, a man, aged sixty-one, was admitted on Aug. 5th, 1884. There was no history of phthisis or cancer

in the family. The patient had never had any previous illness except rheumatic fever twenty years ago. When in good health he weighed 14 st. About twelve months ago his friends noticed that he was getting thin, and at that time he found the slightest exertion tired him. He had no pain, but suffered from shortness of breath and cough, with profuse expectoration of whitish phlegm. He attended the hospital on June 16th as an out-patient, and on examination dulness was found over the lower lobe of the right lung, with amphoric râles and pectoriloquy. A mitral systolic bruit was also heard. There was slight œdema of the legs. He was treated as an out-patient for a month, but not improving, was admitted into the hospital, having had several attacks of hæmoptysis shortly before.

On admission he was greatly emaciated, the expectoration was profuse, viscid, could scarcely be poured out of the cup, and resembled red-currant jelly. Under the microscope leucocytes, epithelioid cells, and red blood-corpuscles were seen in abundance. There was no visible enlargement of the right side of the chest, but it was found that the circumference of the right side was eighteen inches and a half opposite the nipple, while that of the left side was seventeen inches. Vocal fremitus was absent over the lower lobe of the right lung. Elsewhere it was well-marked. The cardiac impulse was in the fifth space, just internal to the nipple-line, and there was a mitral systolic bruit. The respiratory movements on the right side were greatly diminished. The percussion note above, over, and below the right clavicle was impaired, absolute dulness being reached at the fifth space in the nipple-line and at the fourth space in the mid-axillary line. In the right supra-spinous fossa and inter-scapular region the percussion note was much impaired, absolute dulness being reached at the eight rib and extending to just below the costal arch. Friction was heard under the right clavicle, and at the right base amphoric breathing with amphoric râles. Friction was also heard at two or three points in the inter-scapular and supra-spinous regions. At the left apex expiration was prolonged, and there was a little crepitation. The liver was pushed down to the level of the umbilicus; it was evidently not enlarged, for the anterior border was thin and could easily be grasped; it descended very little on a deep inspiration. The spleen was not enlarged. No enlarged glands or engorged veins could be seen, nor were the intercostal spaces obliterated.

A hypodermic needle was passed into the pleural cavity just below the inferior angle of the right scapula, and a syringeful of serous, flaky fluid, with a sanguineous tinge, was with difficulty obtained.

On Aug. 28th a needle was again introduced, but no more fluid could be withdrawn. At this time absolute dulness extended to the fourth rib in the nipple-line, but had not extended upwards in the axillary or infra-scapular regions. The breath sounds were more distinct. The hæmoptysis continued, but in diminished quantity—about two ounces daily.

Sept. 4th.—The patient was in much the same condition, but the liver was not so much depressed. Vocal resonance over the back of the lower part of the right lung was well marked, but the vocal fremitus was very slight. His weight at this date was 9 st. 1 lb. The line of absolute dulness in the nipple-line reached the third space, in the axilla the fifth space, and at the back to the sixth space. Friction and crepitant râles over the dull area still persisted.

11th.—Patient weaker, though quite free from pain. Sputum more copious and blood-stained. Pulse 98; respiration 30.

14th.—Bronchial breathing, amphoric râles and pectoriloquy were well marked, and it was evident that there was a cavity at the right base. The vocal fremitus at this time was well marked.

20th.—Patient had gradually been losing strength, and was now very feeble. Pulse 102, small and irregular. He stated that he had no pain at all, but only feels exhausted. Had had diarrhœa for a few days, which was checked by bismuth.

The patient died on Sept. 21st from pure exhaustion.

The temperature during the first month that the patient was in hospital was of a continued type, averaging 100°; but during the last three weeks of his life it was generally normal, with an occasional elevation. The urine contained a trace of albumen, but was otherwise normal.

Necropsy (Sept. 22d).—Body much emaciated; rigor mortis slightly marked. The right lung was covered with rather a thick layer of recent lymph; no effusion in the pleural cavity. The pleura was much thickened, the base of the lung being firmly attached to the diaphragm. The right lung weighed 90 oz.; the outline was well preserved, but it was nearly solid. On section three cavities were found, one at the apex as large as a walnut, and two at the base, each as large as a small orange. Miliary tubercles were scattered throughout the lung. The lower lobe of the lung was occupied by a very large patch of yellowish firm material; surrounding this mass were a number of secondary foci of similar tissue. The patch had softened in two places. The left lung weighed 42 oz., was adherent to the chest wall, and was œdematous; it was studded with small patches of a white colour, as in a catarrhal pneumonia, but of a firmer consistence, each containing a bronchus in its centre. The heart weighed 10½ oz.; all its cavities contained coagula; the segments of the mitral valve were thickened and the orifice dilated; the left ventricle was a little hypertrophied. The aorta was atheromatous. The liver weighed 70 oz., was much congested, and "nutmeggy" in appearance. The mesentery was studded abundantly with miliary tubercle, but there was no peritonitis. There were well-marked tubercular deposits at numerous points in the small intestine. The spleen was normal. The kidneys were both congested and with diminished cortex, but were not typically granular. Microscopically, a section of the growth in the right lung was made, and therein were to be seen large and irregular epithelioid cells with well-marked nuclei crowded in definite alveoli, within whose walls were smaller cells. Some of the large cells were granular, and apparently undergoing fatty degeneration. An examination of the sputum revealed the presence of the tubercle bacillus in considerable numbers.

Remarks by Dr. SUCKLING.—Primary encephaloid disease of the lung is exceedingly rare. The case at first was supposed to be one of phthisis; but when in hospital the enlargement of the right side, together with the displacement of the liver, suggested some new formation. The sputum was like red-currant jelly, and this is said to characterise malignant disease of the lung. The physical signs—viz., absolute dulness with abolition of vocal fremitus, and displacement of the liver—were those of pleuritic effusion, but there was very little fluid. This was also characteristic of malignant disease of the lung, the new growth filling up the air cells and bronchi, and so obliterating the vocal fremitus. The softening, which took place rapidly, altered the physical signs. The complete absence of pain in this case is remarkable and unusual. The enormous enlargement of the lung could only be due to a new growth. Cancerous disease and phthisis are usually supposed to be antagonistic, and certainly are rarely combined. In this case the tuberculosis seems to have been set up by the inflammatory softening in the right lung. The increased weight of the left lung was chiefly due to its congested condition.

Medical Societies.

ROYAL MEDICAL & CHIRURGICAL SOCIETY.

Distribution of Tubercle Bacilli in the Lesions of Phthisis.

AN ordinary meeting of this Society was held on Tuesday last, Dr. Priestley, Vice-President, in the chair. The following gentlemen were elected Fellows:—Mr. J. F. Bullar, Mr. Lovell Drage, Dr. W. A. Duncan, Mr. F. Swinford Edwards, Mr. Kendal Franks, Mr. C. C. Fuller, Mr. H. T. Griffiths, Mr. C. E. Jennings, Dr. J. Johnston, Dr. J. S. Keser, Dr. A. Oakes, Mr. G. R. T. Phillips, Dr. E. Stewart, Mr. J. Raglan Thomas, and Mr. Bilton Pollard.

The discussion on Dr. Kidd's paper was adjourned to the next meeting, January 13th, 1885.

Dr. PERCY KIDD read a paper on the Distribution of the Tubercle Bacilli in the Lesions of Phthisis. The present paper was based upon an examination of eighty cases, and included two cases of malignant disease of the lung, two cases of sacculated bronchiectasis, and one case of dysenteric ulceration of the intestine. With these exceptions all the cases may be described as "tuberculous." In more than half the cases the lung was examined, in twelve cases the larynx or trachea, in thirteen the intestine, and in thirteen the lymphatic glands. Various other parts were examined in a few instances. With regard to the lung, the object

kept in view was to examine the various lesions comprised in the phthisical process, and to ascertain their connexions with the development of the tubercle bacilli. These bacilli are invariably found in pulmonary cavities, and in nearly all cases in softening caseous material, provided that the morbid process be associated with a tuberculous affection. On the other hand, the fetid contents of a cavity in two cases of sacculated bronchiectasis contained numerous micrococci, but no tubercle bacilli. In most instances these bacilli were detected in the nodular lesions of phthisis, though their number was almost always small, whereas in the three cases of acute miliary tuberculosis examined they were in many nodules very abundant. It is probable that in all cases, whether of acute miliary tuberculosis or phthisis, some stage of the growth of the nodules is associated with the presence of these micro-organisms. The distribution of the bacilli in the so-called caseous pneumonia appears to be very irregular. Generally speaking, where the caseation is uniform and firm no bacilli can be found. But where the caseous process is commencing, or where softening is going on and microscopical cavities are present, bacilli are often seen in great numbers. Where the caseation is recent bacilli are usually scattered among the caseating epithelioid cells, whereas in the later stages they are more often collected in groups, and their distribution is very circumscribed. In this, as well as in the nodular form, the bacilli are usually situated in the caseating alveoli, more rarely in the alveolar walls. Both in the nodular and caseous pneumonic forms bacilli are often found in the infiltrated walls of the small bronchi. Where fibroid induration was pronounced no bacilli were found. Their presence or absence in caseous material seems to depend mainly on its age. The older the caseation the less is the chance that bacilli are present, unless softening occur, when their appearance is certain to take place sooner or later. It is probable, as Koch suggests, that the spores of the bacilli may lie dormant for a very long time, and when suitable conditions are provided may develop into mature bacilli. In the larynx, intestine, and lymphatic glands the presence of the bacilli seems to depend on similar conditions. The fact that the same micro-organisms are found in tuberculous disease of such remote parts as the pia mater, peritoneum, lung, intestinal and genito-urinary tracts, shows that their association with tuberculosis can be no mere accident.

Dr. CREIGHTON thought that the investigations of Dr. Kidd and others ought to remove all doubt of the statement that rod-shaped organisms are universally found in tubercular lesions. Dr. Kidd confirmed most of Koch's original statements. The bacilli were wanting in dry caseous matter, and were much more numerous at the growing periphery of tubercular material. The bacilli were most abundant where the degenerative process is going on in the way of softening of the consolidation. In all forms of granulomata it may be said rod-shaped organisms are to be found. Recently Lustgarten, working at Leipzig (*vide* THE LANCET, *ante* p. 1017), had found the rods in syphilitic gummata. These facts pointed to a general law that all nodular new growths which had great tendency to generalisation formed a favourable nidus for the development or presence of rod-shaped organisms. In some of Dr. Kidd's specimens spherical organisms were to be seen in small cavities. Klebs and Toussaint had found that in cultivating media the spherical organism abounded if inoculation be made with bacilli. Rod-shaped organisms, if cultivated in fluid media, grew into micrococci. The separation of one micro-organism from another was the object of Koch's demonstration at the International Medical Congress of 1881. Koch, however, made no use of the dry method of cultivation in his latest researches. Koch adopted commonplace devices to prevent the presence of the bacteria of putrefaction. If the gelatine became fluid the test-tube was thrown away on the ground that the tube had become contaminated with septic bacilli. Mr. Cheyne made no attempt to test the validity of Koch's method, for he used the same material from Berlin as Koch used. Koch, therefore, relied on successive inoculations to obtain a pure breed of tubercle bacilli, and in this method fallacies might lurk.

Dr. C. T. WILLIAMS thought that the previous speaker had wandered from the subject. Koch seemed to prove his point carefully so far as Dr. Williams knew. Where bacilli are most abundant is amongst the giant cells, according to Koch, but this doctrine Dr. Kidd was unable to substantiate. The ring of bacilli at the periphery of a giant cell seemed to show that nature endeavoured to defend herself against the invading bacilli. The mode of spread by inhalation required further investigation. The spread of bacilli by blood-vessels and lymphatics would probably account for some of the ascertained facts. Spread by direct continuity was another method of dissemination. Ribbert had made observations on the fowl (THE LANCET, vol. ii., 1883, p. 190). Four zones were described in the tubercular lesions; the bacilliferous zone was the third, reckoning from the centre, and also many bacilli were seen in the outermost or vascular zone, and here they projected into the veins. If tuberculous material be injected into the trachea, then the lungs and mesenteric glands only were affected; whilst if the virus were inoculated subcutaneously a generalised tuberculosis resulted.

Mr. BLAND SUTTON said that in the liver of fowls he had detected enormous numbers of giant cells which abounded in bacilli. The daphnia or water-flea inhabited fresh water ponds, and possessed an external shell similar to that of an ordinary lobster. The bacilli penetrated by the alimentary canal, and were immediately beset by white blood-corpuscles, which corpuscles, coming together, became fused and formed a giant cell. A struggle for existence then took place between the bacilli and the giant cells, with different results in different cases.

Sir ANDREW CLARK congratulated Dr. Kidd on his interesting and important paper, which formed a substantial addition to our knowledge on the subject. He could not concur in the statement that the bacillus was sufficient to explain all the lesions of phthisis. He defined phthisis as the assemblage and progression of states associated with or dependent upon ulcerative or suppurative destruction of more or less circumscribed non-malignant deposits or consolidations of the lungs. And under this definition chronic interstitial pneumonia or fibroid phthisis would also fall, for there occurred ulcerative or suppurative destruction of tissue, together with the symptoms, which could not be distinguished from those of ordinary phthisis, and yet in the lesions no bacilli were to be found. In eleven cases of ulcerative interstitial pneumonia or fibroid phthisis no tubercular bacilli have been found though carefully investigated by himself and his house-physicians. A case of dry pleurisy, which lasted for a period of eighteen months, in a gentleman, was narrated. Eighteen years after the pleurisy osteo-arthritis set in, and the signs of a contractile disease in the left lung were made out. There were signs of dry cavities in the lungs, and asphyxia terminated death from hæmoptysis. Here there was no evidence of tubercular bacilli in microscopic sections of the diseased tissues. It must be remembered, also, that no bacilli were found in some cases of acute miliary tuberculosis; and further, that in some cases no bacilli were to be detected until softening had taken place, so that these facts led him to doubt the causal connexion of the bacilli with phthisis. Again, cases of caseous pneumonia had a life history which was totally different from the life history of what we call tuberculosis. The true criterion of disease was to be found in the whole and complete life history of a malady, and not in the anatomical lesions which were induced by something lying behind and working beneath them.

MEDICAL SOCIETY OF LONDON.

Intussusception.

AN ordinary meeting of this Society was held on Monday last, Mr. Arthur E. Durham, President, in the chair.

Mr. F. TREVES read a paper on Intussusception. Thirty per cent. of all forms of obstruction (except hernia and congenital malformations) were cases of intussusception. Of the anatomical forms of intussusception, 30 per cent. were enteric, 18 per cent. were colic, 44 ileo-cæcal, and 8 were ileo-colic. The enteric forms were most common at the lower part of the jejunum and were small; the colic forms were mostly to the left of the transverse colon. A description was given of the ileo-colic and ileo-cæcal forms. The colic forms were as a rule chronic. The other forms were acute or subacute. The ileo-colic was as a rule acute in its course. Of the clinical forms, four kinds were described. The ultra acute was very rare, and terminated fatally in twenty-four hours; the acute, lasting from two to seven days, numbered about 48 per cent. of all cases of intussusception; the subacute, lasting from seven to thirty days, were about 34 per cent.; and the chronic, lasting over thirty days, occurred

about 18 times out of every 100 cases. The disease occurred mostly in children, as the table of ages showed :—

Proportion at Various Ages.

Before	11 years	53	per cent.
Between	11 and 20 years	12	,,
,,	21 and 40 ,,	20	,,
,,	41 and 60 ,,	11	,,
Beyond	60 ,,	4	,,

Fifty per cent. of all cases occurred under ten years of age. Acute forms were most frequent in the young, and chronic kinds between the ages of twenty and forty. The pathological changes were chiefly of two kinds : first, obstruction of the bowels ; and secondly, strangulation of the intussusceptum. The two changes need not coexist ; mere invagination does not of necessity involve either, as, for example, in the early stage of chronic intussusception. In strangulation of the intussusceptum there was compression of the mesenteric or mesocolic vessels and constriction at the neck of the intussusceptum. Obstruction of intestines might be due to four factors :—(1) The orifice of the intussusceptum becoming converted into a slit, and getting opposed to the intussuscipiens : (2) the inner and middle cylinders becoming bent ; (3) these cylinders may become enormously thickened ; and (4) the lumen may become plugged by blood, &c. The intussusception may be irreducible owing to adhesions about the neck or over the whole surface ; these adhesions cannot be diagnosed ; they may be absent in cases of six weeks' duration, and present in others of three days' duration ; they are met with in 80 per cent. of chronic cases, and 40 per cent. of acute ones. Swelling of the intussusceptum, bending or twisting of the middle cylinders, and the valvular constriction in some cases of the ileo-colic form were other causes of irreducibility. Spontaneous cure by elimination cannot occur in certain cases of the chronic form, and certainly not in the ultra acute form, but it may occur in the gravest case when the patient is *in extremis*. Spontaneous elimination takes place in about 40 per cent. of all cases, but this is no guide to the mortality, for the whole of the forty do not live. Spontaneous elimination occurs in the ileo-cæcal form in 20 per cent., in the colic form in 28 per cent., and in the enteric form in 61 per cent., so that it is most rare in the most common form. It occurs in 2 per cent. under two years of age, in 6 per cent. between two and five years, in 38 per cent. between six and ten, in 40 per cent. between eleven and forty, in 44 per cent. between forty-one and sixty, and in 46 per cent. beyond sixty years of age, so that it is most rare in patients among whom intussusception is most common. Spontaneous elimination has occurred at the end of the third or fourth day, and as late as the sixth or seventh month. The great bulk fall between the tenth and thirtieth day. In over 40 per cent. of the subjects of elimination death follows from effects arising out of the original lesion or the elimination. The general mortality of intussusception is 70 per cent. Between the ages of eleven and twenty it is 28 per cent., between twenty-one and forty 32 per cent., between forty-one and fifty 36 per cent., between fifty-one and sixty 50 per cent., and beyond sixty 85 per cent. The mortality is highest when spontaneous elimination is most common. In a hundred cases of intussusception in children under eleven it may be reckoned that not more than twelve will undergo cure by elimination. Spontaneous reduction or the formation of a fistula above the invagination (one case) are other modes of spontaneous cure. The treatment was discussed for acute and subacute cases only. Opium first, as it gives rest to the intestines, relieves pain, and diminishes shock. Nothnagel produced all the various forms of intussusception in animals by means of electrodes. Opium gives better effect to the subsequent treatment. Feeding is of no moment in acute cases ; thirst may be relieved by enemata. Enemata with a view to reduction should be adopted as soon as the patient is under the influence of opium. In really acute cases they do no good after the second day. Chloroform should be administered in children. The best positions were the knee and head or knee and elbow ; sometimes the lateral abdominal. Inversion was no good. A tumour could be felt either through the parietes or per rectum in nearly 50 per cent. of the cases, and the effect of enemata on the tumour should be watched. Massage, electricity, carbonic acid, enemata, and metallic mercury were useless and wasted time. Laparotomy should be resorted to without delay, and should be a first, not a last, resort. The mortality of the operation was high, but would probably be much less if performed earlier, and when the patients were less exhausted. In really acute cases operation should be performed within forty-eight hours, and in infants, if possible, within twenty-four hours. The *modus operandi* was next discussed, the median incision being recommended in all cases. The general mortality was 72 per cent. in thirty-three recorded cases ; when reduction was easy it was 30 per cent., and when difficult it was 91 per cent. Resection should be done if the intussusception be irreducible or gangrene have set in.

Dr. HABERSHON spoke of the difficulties of diagnosis and of the best plan of treatment. The treatment naturally followed the clinical course—acute, subacute, and chronic. Medical treatment was only available in the acute cases. Belladonna and the injection of free diluents have been followed by success. When failure is experienced in the employment of medical agencies, then operation should be done. He asked Mr. Treves to give the precise time at which operations had been performed. The introduction of a bougie in the rectum had been of value in starting reduction. Intussusception was a gradual process, and hence the importance of securing early treatment.

Dr. W. H. DAY narrated a case of intussusception in which the use of belladonna combined with four copious warm water enemata resulted in success.

Mr. BERNARD PITTS gave an outline of a case of a child aged five who suffered from acute intussusception. The intussusception could be felt in the rectum ; in this case manipulation followed by inflation of the bowel was combined with inversion of the patient, and attended with success.

Mr. BOYCE BARROW remarked that the application of ice over the intussusception was of much importance.

Mr. PICKERING PICK considered that intussusception and strangulated hernia were not identical. It had always been difficult for him to advise early abdominal section when he remembered that there were rational chances of recovery without operation. Allusion was made to the difficulty and occasional impossibility of returning the bowel in the abdominal cavity. He would rather resect the intussusception than perform abdominal section and make an artificial anus.

Dr. C. H. ROUTH advocated the use of belladonna in obstruction of the intestines, and especially in cases of intussusception in children.

Mr. ROYES BELL related two cases which had been under his care. The first case was a fatal one ; reduction was impossible, even after abdominal section. The second case recovered after ineffectual attempts at reduction by means of inflation.

Mr. W. ROSE confessed that he had never understood statistics better than those brought forward by Mr. Treves. Early operation in young children was most necessary. The operation was, no doubt, one of great difficulty. He preferred excision of an irreducible intussusception to the formation of an artificial anus.

Mr. PEARCE GOULD asked by what data the clinical nature of the case could be recognised. How long is opium to be given before resorting to other means ? We should be careful to apply remedies thoroughly on a first occasion, and if failure resulted other measures should be tried. Enemata set up violent peristalsis, and ought not to be resorted to as a means of feeding the patient. He preferred opium to belladonna.

Dr. RADCLIFFE CROCKER was convinced that for belladonna to be of use much larger doses must be employed than those recommended by Dr. Day and Dr. Routh.

Mr. TREVES, in reply, preferred opium to belladonna, as there was not time to use many drugs. Mere vague rubbing of the abdomen was practically useless. M. Grissot had extensively tried ice in every way, but the action of ice was, in animals at least, to increase the peristalsis. As to the chance of recovery *versus* laparotomy, it must be remembered that the fatality of laparotomy would probably be much less if the operation were performed early. The severity of the symptoms might indicate the acuteness or subacuteness of the clinical course. Enemata were perfectly useless after the second day.

EPIDEMIOLOGICAL SOCIETY.

AT a meeting of this Society, held at Chandos-street, Cavendish-square, on Wednesday, Nov. 12th, Dr. NORMAN CHEVERS, the President, delivered the inaugural address. He commenced by saying that since the Society last assembled, death had taken from the Association one who,

although younger than most of them, was second to none as a man of science. The daily business of the life of John Netten Radcliffe was epidemiology, and when that life closed so prematurely there was not in Christendom any investigator of disease to whom the title of "epidemiologist" was more justly due than it was to him, an inquirer as honest as he was able, upon whose brief and by no means painless, mundane existence the divine light of truth was bountifully shed. Dr. Chevers then brought before the Society, in the form of questions, several observations on the subjects of endemic quinsy, inflammation of the external meatus of the ear, diphtheria with mumps, and boils in India. Having also related remarkable cases of jaundice and colic, he made some observations on herpetic fever and concluded with some remarks on dysentery. In the address delivered at the opening meeting in 1883 he had made some allusion to the occurrence of dysentery in London, showing that the last prevalence of dysentery occurred between the years 1840 and 1847. The details were recorded by Dr. Baly, and Dr. Chevers in his own person had convincing evidence that the malady was true dysentery. The almost complete subsequent immunity of London from this disease is proved by the fact that two distinguished hospital physicians of middle age lately said they had never seen a case of dysentery originating in London. Nevertheless, the Registrar-General's returns, as cited in the public press, state that "119 [deaths occurred during the week ending 18th August, 1883, in London] from *diarrhœa and dysentery*." In one week in the previous month of July the newspaper gives 351 deaths from dysentery. Making due allowance for inaccurate citation by non-professional reporters, this assertion of the occurrence of a multitude of deaths from dysentery in a city whose physicians have never seen English dysentery will naturally appear somewhat perplexing. Dr. Chevers said that the Registrar-General was as wrong in massing together cases of those perfectly distinct maladies, dysentery and diarrhœa, as an ornithologist would be if he classed the owl with the sparrow. He had lately spoken on this matter to a very high non-professional authority, who considered that the anomaly probably arose from a prevalence of cases of "dysenteric diarrhœa," a disease of which Dr. Chevers then heard for the first time, and in the existence of which, either at the present or any other time, he confidently disbelieved, diarrhœa and dysentery being two perfectly distinct entities always to be differentiated by observing the symptoms and washing the stools. The erroneous belief in the existence of "dysenteric diarrhœa" probably arose from the fact that grave dysentery is not always attended with severe pain. A careful search for indigenous dysentery in London and its suburbs would probably lead to the discovery of genuine cases.—In the discussion which followed Sir Joseph Fayrer, Sir W. Guyer Hunter, Surgeon-General Gordon, Surgeon-General Murray, Inspector-General Lawson, and Drs. Pringle and Saunders took part.

MEDICAL OFFICERS OF HEALTH SOCIETY.

AT a meeting of this Society held on Friday, Nov. 1st, at 1, Adam-street, Adelphi, Dr. T. O. Dudfield, President, in the chair,

Mr. ALFRED SPENCER, of the Metropolitan Board of Works, read a paper on the Supervision of Noxious Trades. Mr. Spencer referred to the effect of the Metropolitan Building Act of 1844, Sect. 55 of which prohibited the erection of any dwelling within fifty feet of a building used for the businesses of a blood-boiler, bone-boiler, fellmonger, soap-boiler, tallow-melter, tripe-boiler, slaughterer of cattle, sheep, or horses, and any other like business, offensive or noxious. It was also forbidden to carry on any such business within forty feet of any public way and fifty feet of a dwelling; and any existing business of this character within these distances was to be abandoned at the end of thirty years. By themselves these clauses would have led to the abolition of such places within thirty years, but a later section gives the justices power to mitigate the penalty, provided the best means were adopted for preventing nuisance. In 1874 an Act was passed which repealed the last section, and thus certain businesses came to be prohibited, while others could only be established by consent of the local authority. The Metropolitan Board of Works, under this Act, made regulations for slaughter-houses, which have been very beneficial in their operation, and as many as 620 out of 1429 have been abolished. Offensive businesses are mostly situated in Bermondsey, in Belle Isle, Islington, and Southwark. A second set of bye-laws under this Act deals with the businesses of a blood-boiler, bone-boiler, a manure manufacturer, soap-boiler, and tallow-melter. The means for preventing nuisance in these businesses was stated in detail. Mr. Spencer then dwelt on the qualifications necessary in the inspector for influencing the masters and men engaged in them. A short account was then given of trades dealt with by the Alkali Works Regulation Act of 1881, which takes cognisance of works for sulphuric acid, for gas liquor, for nitric acid, and sulphate of ammonia. Other businesses were then briefly considered, such as brick and ballast burning, cement making, &c., and in conclusion Mr. Spencer claimed that the London of to-day is far more free from nuisance resulting from trades in consequence of the restrictions under which they are placed than formerly.—In the discussion which followed, the President, Drs. Saunders, Gwynn, Iliff, Kelly, and Corfield, Mr. Rogers, and Mr. Shirley Murphy took part.

Reviews and Notices of Books.

A Practical Treatise on the Medical and Surgical Uses of Electricity. By GEO. M. BEARD, M.D., and A. D. ROCKWELL, M.D. Fourth Edition. London: H. K. Lewis. 1884.—This treatise, as our readers probably are aware, emanates from America, and for this last edition Dr. Rockwell is solely responsible. It is very large, and deals at length, if not exhaustively, with every phase of electro-therapeutics. In fact, the author manages to fill nearly 800 octavo pages. The book, it may be urged, is not so big as the last edition of Duchenne's classic treatise on "L'Electrisation Localisée," but then the large bulk of the latter was due mainly to the additions made by its author to scientific medicine. Duchenne used electricity as a means of treatment it is true, but still more largely he used it as a means of investigation, and if Duchenne's work grew in bulk, its bulk was never disproportioned to its scientific value. Dr. Rockwell is a great believer in the therapeutic value of electricity, and the size of the book is proportioned to the extent of his belief. It is not unlikely that English readers may come to the conclusion that many of Dr. Rockwell's patients might have recovered even without his aid, or by means of therapeutic measures other than electricity. It may be laid down as a rule of medical ethics that while we do well to be sceptical in accepting new statements as to the value of all new modes of treatment, we are especially bound to use our scepticism in those methods of treatment which necessitate on the one hand the repeated visits of the physician to his patient, and on the other hand the constant "refreshing" (to use a legal phrase) of the physician by his patient. A glance through this work will show that Dr. Rockwell recommends the use of electricity for many conditions for which it is not applied to any great extent in this country. It is true that electricity may be used in a great many conditions in which a local stimulation of the tissues is indicated, but we cannot but feel that in the best interests of the profession as well as patients something should be left for time to accomplish, and to be brought about by what Lord Beaconsfield called "the magic of patience." We can only hope that the general reader will not be carried away by Dr. Rockwell's statements, and that he will carefully study and verify them before he begins to make an almost invariable use of electrical currents for all the protean forms of disease. To such as have a knowledge of neuro-pathology, Dr. Rockwell's work may prove of value for occasional reference, but, notwithstanding its size, it does not seem to us to be particularly well filled with references to the latest and most trustworthy authors on the subjects of which it treats. For example, Durham and Forster's cases of hydatid tumour successfully treated by galvano-

puncture are given at p. 698, but no mention is made of Dr. Fagge's subsequent experience of similar benefit derived from simple puncture. There are many practical hints and details scattered throughout the book, which will certainly prove of service to those who are wishing to use electricity for the benefit of their patients. This is the strong point of the book, and we do not hesitate to say that while the sanguine reader is likely to be often disappointed when he comes to put Dr. Rockwell's treatment into practice, the reader with judgment and knowledge will get many valuable practical hints from a perusal of the work.

A Manual of Diseases of the Throat and Nose. By MORELL MACKENZIE, M.D. Vol. II.: Diseases of the Œsophagus, Nose, and Naso-pharynx. London: J. and A. Churchill. 1884.—Some of the special features of this work are its wealth of accurate reference to related literature; its carefully planned histories of the various diseases; the conciseness and clearness of its language, and the thoroughness of its pathology so far as that is possible. It is needless to say that the volume, whilst bearing the impress of Dr. Mackenzie's authorship, could hardly have been the labour of one mind when we remember the time which is likely to have been at the disposal of the author for the past twelve years during which the work has been in progress. Indeed, Dr. Mackenzie expresses his thanks to several friends and assistants who have aided him in clinical investigations and literary researches, and in particular he acknowledges his deep obligations to Mr. C. L. Taylor for his invaluable help during the past four years. The poverty of real information concerning acute œsophagitis, more especially in infants, is obvious from a perusal of this section of the volume. We are convinced that the greatest nonsense is talked in connexion with inflammatory affections of the œsophagus amongst infants. Listening to one class of physicians, whose experience we cannot but think is not the result of observation of cases either during life or after death, we hear that the œsophagus is a desert in respect of disease. Now, in our view there can be no doubt that certain degrees of inflammatory action are by no means uncommon both in infants and others; and the cause of such irritative disturbance will probably be found to be the illegitimate use of spirits and many other irritant articles of ingestion. It is a fact requiring further explanation than we can find for it that the more specific diseases of the neighbouring organs do not greatly tend to propagate themselves along the œsophagus. Dr. Mackenzie has seen but two fatal cases of diphtheria of the gullet, one in a child aged three, and the other in a boy aged six. In the chapter on Rupture of the Gullet Dr. Mackenzie relates some experiments which seem to prove that the lower third of the œsophagus is the region of least resistance; that rupture from direct pressure applied within the gullet always takes place in a longitudinal direction and that the mucous membrane offers greater resistance to strain than the muscular covering. The work has been well indexed by Mr. Mark Hovell.

Diseases of the Spinal Cord. By BYROM BRAMWELL, M.D., with 183 Illustrations. Second Edition. Edinburgh: Young J. Pentland. 1884.—We have already fully reviewed this excellent book (THE LANCET, 1882, vol. ii., p. 745). The author is to be congratulated on the appearance of a second edition. The original plan of the work has been for the most part adhered to, though every page has been subjected to careful revision. The sections devoted to the pathology of individual lesions have been placed under the special diseases, the functional affections have been more fully considered, and a considerable space has been given to the important and difficult subject of concussion of the spine, and the method of examining "railway cases." Many of the old illustrations have been redrawn, and a large number of new figures, both woodcuts and chromolitbgraphs, have been added. The excellence of the chromolithographs calls for the highest commendation. The second is a still better guide than the first edition, good as that was.

Fat and Blood. By S. WEIR MITCHELL, M.D. Third Edition, revised, with additions. Philadelphia: J. B. Lippincott and Co. London: Southampton-street, Strand. 1884.—This little book of 162 pages ought to be carefully studied by every practitioner of medicine. Although the treatment, which is here considered in all its aspects, has special reference to the methods of renewing the vitality of feeble people, yet we are convinced that many hints which have a wider application may be gathered from the pages of the work. We shall content ourselves with a single quotation, from which will be gathered much that we could hardly express in better terms:—"As regards the acceptance of this method of treatment I have to-day no complaint to make. It runs, indeed, the risk of being employed in cases which do not need it and by persons who are not competent, and of being thus in a measure brought into disrepute. As concerns one of its essentials—massage—this is especially to be feared. It is a remedy with capacity to hurt as well as to help, and should never be used without the advice of a physician, nor persistently kept up without medical observation of its temporary and more permanent effects."

Elements of Modern Chemistry. By ADOLPHE WURTZ, Senator, Member of the Institute, &c. Second American Edition. Translated and edited, with the approbation of the Author, from the Fifth French Edition, by W. H. GREENE, M.D., Professor of Chemistry in the Central High School, Philadelphia, &c. London and Philadelphia: Lippincott. 1884.—It is not wonderful that Professor Wurtz's little book has run quickly through edition after edition, for it is clear and simple, and the author's name is illustrious. Dr. Greene is an excellent translator, and the American edition is printed on good paper and in good style. This very considerable allowance of praise is all we can afford. We find no element of novelty in the book, and can see no reason why it should be selected as an elementary text-book in preference to a good many others which might be mentioned. It is indeed so like the ordinary run of books of the class that we should find little to say of it even if it were a first instead of, virtually, a fifth edition.

The Journal of Anatomy and Physiology. Conducted by Professors G. M. HUMPHRY, W. TURNER, and J. E. M'KENDRICK. Vol. XVIII., Part IV.—This part contains the following memoirs:—Cleland: Terminal Forms of Life. Sutton: Rickets in Wild Animals. Dobson: The Presence of Peyer's Patches in the Cæcum and Colon of certain Mammals. Lockhart Gibson: The Invisible Blood-corpuscle of Norris. Marcus Gunn: The Eye of Ornithorhynchus Paradoxus. D'Arcy Thompson: On the Nature and Action of certain Ligaments. Ainslie Hollis: Researches into the Histology of the Central Grey Substance of the Spinal Cord, Medulla Oblongata, and Pons Varolii. A. Thomson: Varitions of the Thoracic Duct associated with Abnormal Arterial Distribution. W. Stirling: The Ferments or Enzymes of the Digestive Tract in Fishes. Walter Colman: The Minute Structure of the Spinal Cord of a Human Fœtus. Sheridan Delépine: Contributions to the Study of Nucleus Division.

Notes on Materia Medica and Pharmacy. By FREDERICK T. ROBERTS, M.D., B.Sc., F.R.C.P. London: H. K. Lewis. 1884.—Dr. Roberts points out that the duration of the course of lectures on materia medica required by the examining boards is so short that it is difficult to do justice to the whole subject. He has accordingly compiled these notes in the hope that their publication will in future enable him to devote his entire course to therapeutics. Much of the information is arranged in a tabular form, and seems well

adapted to the requirements of students preparing for examination.

Materia Medica, Physiological and Applied. Vol. I. London: Trübner and Co. 1884.—This is a work of over seven hundred pages devoted to a consideration of the action and uses of some half dozen remedies, including aconite, digitalis, nux vomica, and bichromate of potassium. The historical notes on aconite and the collection of cases of poisoning by aconitia will be read with interest.

Transactions of the Clinical Society, Vol. XVII. London: Longmans, Green, & Co.—The most important papers in this volume are:—Three Cases of Peritoneal Abscess in Children, by Dr. Goodhart; an Anomalous Case of Disseminated Cerebro-spinal Sclerosis, by Dr. Bastian; a Case of Spreading Obliterative Arteritis, by Mr. Pearce Gould, and a similar case by Dr. Hadden; a Case of Tuberculous Tumours of the Larynx, by Dr. Percy Kidd; a Remarkable Case of Tubercular Meningitis, by Dr. Angel Money; a Case of Gluteal Aneurysm, by Mr. G. R. Turner; Case of Acute Intestinal Obstruction caused by a Diverticulum and successfully treated by Abdominal Section, by Mr. H. H. Clutton; Multiple Abscesses of the Liver treated by Incision, with Recovery, by Dr. S. West; a Case of Dislocation Backwards of the First Lumbar Vertebra, which was successfully reduced under ether, by Mr. Davies-Colley.

Orthopædic Apparatus. By F. GUSTAV ERNST. Pp. 58. London: Sprague and Co. 1883. — This work consists of a series of illustrated plates, with corresponding descriptions of the various forms of mechanism employed in the treatment and cure of the numerous deformities of the human body, and the author has in it enabled a medical man readily to see what appliances are made for various deformities, and to determine which would be the most suitable for the case under his care. It is obvious that in such a manual as the one under notice it is impossible to represent every apparatus that may be found necessary for such deformity, every case having its own individual aspect; but it certainly contains a capital selection of modern instruments such as are daily recommended and used, and which form the base of all apparatus.

Christmas and New Year's Cards.—Messrs. BIRN BROS., Fine Art Publishers, of Milton-street, City, have submitted to us a packet of Christmas and New Year's cards, some of which are of distinctly novel design, whilst all are more or less remarkable for beauty and harmony of colour. We have also to acknowledge the receipt from Messrs. DAVIDSON BROTHERS of some very pretty specimens of the same class of publications, consisting of floral groups, coloured photographs, &c.

THE LATE DR. MAHOMED.

A MEETING was held on Dec. 10th at Guy's Hospital, Dr. Wilks, the senior physician, in the chair. In addition to many of the staff of Guy's, St. Mary's, and the Fever Hospitals, the following, and many others of those who sympathise with the movement, were present: Dr. Chadwick, Dr. Hare, Dr. Hughlings Jackson, Dr. Dyce Duckworth, Mr. Macnamara, the treasurer of Guy's Hospital, and Mr. Burdett.

Dr. Wilks having referred to the great loss sustained by the profession, explained how impossible it was for Dr. Mahomed, owing to his sudden and untimely death, to have made any provision for his wife and family.

The following resolution was next moved by Dr. Pavy and seconded by Mr. Field: "That a memorial fund be raised for the benefit of the widow and children of the late Dr. Mahomed."

Dr. Hare then proposed, and Mr. Aikin seconded, the following: "That a committee be formed to represent the staff of Guy's, St. Mary's and the Fever Hospitals, the University of Cambridge, the British Medical Association Collective Investigation, and personal friends."

The third resolution, proposed by Mr. Macnamara and seconded by Mr. Herbert Page, was to the effect that a circular letter be drawn up and issued by a subcommittee inviting subscriptions from all who have known Dr. Mahomed, or from those who have been in a position to appreciate his untiring energy in the furthering of scientific medicine. The members of this committee are Dr. Wilks (chairman), Mr. A. E. Durham (treasurer), Dr. Cayley, Mr. Field, Mr. Macnamara, with Dr. Goodhart and Mr. Jacobson as secretaries.

Strong and unanimous expressions of opinion were made to the effect that Dr. Mahomed deserved well of the profession; Mr. Burdett, while supporting the first resolution in sympathising terms, drew attention to this fact, and said that this was an occasion which called for special and strenuous efforts.

The following subscriptions, amounting to over £600, have been already promised or received:—

	£	s.	d.
Professor Humphry ..	50	0	0
Mr. Field (in 4 instals.)	100	0	0
Mr. Burdett makes himself responsible for ..	100	0	0
Dr. Wilks	26	5	0
Mr. Durham	50	0	0
M D	25	0	0
F.D.	25	0	0
Dr. Chadwick (in 6 mths.)	50	0	0
Dr. D. Hood (in 4 instals)	50	0	0
Dr. C. Grigg	20	0	0
Dr. Cayley	21	0	0
Dr. C. T. Williams	10	10	0
Dr. M. Skerritt, Clifton	10	0	0
T. Bryant, Esq.	10	0	0
Dr. Dyce Duckworth ..	10	10	0
C. Bader, Esq.	10	10	0
C. A. Aikin, Esq	10	10	0
Dr. E. Clifford Beale ..	10	10	0
Dr. Goodhart	15	15	0
Mr. Jacobson (in instals.)	15	15	0
Dr. Bright, Forest-hill ..	5	5	0
Dr. N. Moore, Brighton	5	5	0
G. Lawson, Esq.	5	5	0
Dr. Coupland	5	5	0
C. Woolridge, M.B. ..	5	5	0
C. Macnamara, Esq. ..	15	15	0
H. Page, Esq.	10	10	0
The President of Guy's Hospital	5	5	0
The Treasurer of Guy's Hospital	5	5	0
Dr. Isambard Owen ..	5	5	0
Dr. Douglas Powell ..	3	3	0
Dr. Pitt	3	3	0
Dr. Sharkey	2	0	0
Dr. S. Smith, Clifton ..	1	1	0
G. Eastes, M.B.	1	1	0
A. B. R. Myers, Esq., Scots Guards..	1	1	0
T. Eastes, M.D., Folkestone	2	2	0
J. W. Barnes, Esq... ..	1	1	0
A. Jackson, Esq., Sheffield	1	1	0

We are asked to state that subscriptions should be sent to Mr. Durham (treasurer), 82, Brook-street, W.; or to one of the secretaries, Dr. Goodhart, 25, Weymouth-street, W.; Mr. Jacobson, 41, Finsbury-square, E.C.

To the Editor of THE LANCET.

SIR,—I think your readers will be interested to read some of the many expressions of regret and sympathy at the death of the late Dr. Mahomed, which I have received from the members of the International Committee for Collective Investigation.

Professor d'Espine, of Geneva writes: "I hasten to express my sincere sympathy for the sad loss that you have just sustained in the person of Dr. Mahomed, whose eminent qualities I had an opportunity of appreciating at the Congress of London."

Professor Trier, of Copenhagen, writes: "With full and sincere sympathy I have received the information of the loss the profession of your country has sustained by the death of our excellent colleague. I beg you to receive the expression of my feelings on this occasion, and to communicate them to Sir William Gull and to Professor Humphry."

Professor Lepine, of Lyons, says: "I learn with the most lively sorrow the death of our colleague, Dr. Mahomed. I shall devote a few lines to him in the forthcoming number of the *Revue de Médecine*. Personally I am very grieved; for science it is a great loss, and for our committee as well."

Letters to similar effect I have received from Professors Ewald and Bernhardt, of Berlin; from Professor Bouchard, of Paris; and from Professor Lange, of Copenhagen.

I am, Sir, yours very truly,

December 10th, 1884. ISAMBARD OWEN.

THE SURGICAL AID SOCIETY.—From the report which was read at the twenty-second annual meeting of the friends and subscribers of this charity, on the 6th inst., it appears that during the past year 5357 patients have been relieved, comprising 1946 men, 2585 women, and 826 children. There was a total increase of 725 patients over the number relieved during the previous year, and this made an average of 103 per week. No less than 46,385 persons have been relieved since the foundation of the Society, and the number of surgical appliances supplied during the same period is 61,644, of which number 8101 have been supplied during the last twelve months. The total income during the year was £6380, and the expenditure amounted to £6310.

THE LANCET.

[LONDON: SATURDAY, DECEMBER 13, 1884.

IN our last number we pointed out how little attention had been given by the Senate of the University of London to the suggestions of teachers in regard to medical studies and examinations, and how little hope there was, from the peculiar constitution of the Senate, of a remedy. The teachers in arts and science in our large colleges and schools are also greatly dissatisfied with the present position of their subjects in the University. When started in 1837 the University of London was merely an examining body, with power to grant degrees to certain affiliated colleges, such as University and King's, some other colleges for higher education, and the medical schools in London and the provinces. But this unimportant position as an examining board for these colleges and schools only did not satisfy the aspirations of the members of the Senate; they objected to be bound to teaching bodies, and so, on the experience of a short life of about twenty years, they determined to widen their portals, throw over the colleges and affiliated institutions, and give their degrees in Arts and Laws to any candidates who could pass the examinations, no matter whether they were taught or untaught. This step led to a large increase in numbers for the degrees, and private study appeared more and more frequently in the lists; but the professoriate were alienated, affiliation became a nonentity which might as well have been struck out of the Calendar, and most students, who were not debarred by pecuniary or religious objections, were now recommended by their teachers at affiliated institutions to proceed to the older universities. From that time, the representative pupils of many first-class schools and certain of the collegiate institutions have not presented themselves at the University, unless they felt sure of a monetary equivalent in the shape of a scholarship or exhibition, when their names might appear among the run of sectarian candidates and those taught privately. Since 1860, with only two exceptions, wranglers from Cambridge have taken the mathematical scholarship and gold medal at the B.A. Honours Examination. The University of London has kindly given £150 to the best mathematical student at Cambridge who will condescend to be examined and be styled University Scholar in Mathematics; and the Chancellor, as the representative of the Senate, is so pleased with this result that he almost always refers to it at the Commemoration as a singularly satisfactory feature in the University. The Matriculation Examination, "with its smattering of every subject and thoroughness in none," seems to be the *terminus ad quem*, and private tuition the main characteristic, in the non-medical faculties. At the end of 1883, 26,629 candidates had presented themselves for matriculation, 2696 (about 1 in 10) had obtained the B.A. degree, 1016 that of M.B., and 381, 523, and 11 those of science, laws, and music respectively, many of the latter being, of course, already Bachelors of Arts. Arts and Laws having been turned over to private study and private tuition, Science had, of course, to follow suit, and so when degrees in this faculty were instituted no course of training was laid down. Fortunately for students in science, laboratories are necessary for their instruction, and so, although this is ignored by the authorities of the University, they cannot escape from a certain amount of training under a professor or teacher. Professorial teaching, although reduced to a minimum, cannot be so absolutely divorced from the mere examination in Science, as is the case with Arts and Laws. Still, even now, on applying for an appointment, a young scientific man is more frequently asked where, for how long, and under whom he has studied his branch of the profession, than whether he has taken the B.Sc. Lond. degree. The inconsistency of the University authorities cannot be better shown than by their suspension of all regulations for non-medical degrees, and their rigid insistence on the stringent and unnecessary regulations laid down so minutely for candidates for the degrees in Medicine. Why do they not pursue their principles to a logical conclusion, and remove all restrictions except the examination test from the medical student also? The secret or avowed hostility of the best teachers in literary and scientific subjects to the examination and the system was merely a question of time after their sympathies had been thus alienated. Owens College, backed by the earnestness of Manchester in desiring a local, or, at any rate, a northern university, brought into more prominence the demerits of the University of London from the standpoints of arts, laws, and science, and now the promoters of a teaching University in London are closely following in its steps and for similar reasons. The teachers urge that their courses of study are cramped and made much less effective by the fact that another body, on which they are unrepresented, practically rules their curriculum; that this body lays down no reasonable plan for a suitable education, especially in the literary subjects, but picks out books and authors here and there in an irresponsible and unmethodical fashion, and that no one has any power to revise its omissions or commissions. Active professors are conspicuously absent from the Senate; the only representatives in arts and science who are at present engaged in teaching are Prof. HUXLEY, Dr. HIRST, Prof. WILLIAMSON, and Dr. ROUTH, and two of these have declared in favour of a teaching university. Can these be accepted as the only guiding spirits of a modern university and as an adequate representation of a professorial body such as the Senate ought to consist of? Even of these, only one really teaches at an affiliated college. The association of teachers with past and present examiners and the special committees of the Senate to form Boards of Studies, is the only method by which a proper governing body can be formed, one which will secure training by the best teachers, and uniformity of examination at a constant standard. Such a possible organisation seems to have hardly occurred to the authorities of the University of London, and hence a teaching university has become a possible alternative, and will, we suspect, prove a dangerous rival.

THE politicians are at length taking a leaf out of the book of the physicians, and trying consultation instead of contradiction. The change has not come a day too soon. The political engine had very nearly come to a deadlock, and

men of all creeds were beginning to feel disrespect, not to say contempt, for the discussion of public questions in a way that evoked from public men the rudest contradiction of all their opponents said, and resulted in a minimum amount of legislation, and much of this of the feeblest order. The flood of talk and the facilities for preventing the accomplishment of the most needed legislation, and that upon which there was the greatest consensus of opinion and desire, had really become intolerable. Parliamentary government itself seemed to be in danger. In no other sphere of work would such a system have been tolerated so long. Fancy it applied to the profession of medicine. Suppose Sir WILLIAM JENNER and Sir ANDREW CLARK, brought to the consideration of a case, to fall to and call each other names, and before and in the audience of the patient to denounce each other's suggestions, whether of diagnosis or treatment. The fate of an unhappy patient under such circumstances would be sealed; and not less disastrous would be the consequences to the name and fame of the profession. Some politicians, who care for their party more than for the State, are exhausting their energies in trying to demonstrate that all the credit of this new departure in politics rests with their particular leader, and all the advantages with their particular party. We take no such one-sided view of the matter. We give equal credit to Mr. GLADSTONE and Lord SALISBURY. We accord to both of them the discovery that things could not go on as they were, and that the interests of the State actually and urgently required that this system of contradiction should be controlled. It is to be assumed that Parliament is a body for the transaction of public business, then the precedent which has just been supplied in the fruitful interviews of the leading members of opposite parties will have to be much followed.

Our own observation of attempts at medical legislation has given us the worst opinion of the present system of governing. A subject upon which not a dozen members of either House can have any sound knowledge is thrown into the arena of discussion at the fag end of an August night. The will of the profession and the recommendations of a Royal Commission count for nothing. The hapless minister in charge is confronted with sixty or seventy trifling obstructive amendments, each of which can be spoken on indefinitely. A quasi-representative of the profession damns the measure with faint praise and in terms of apparent approval, and with many plausible platitudes, misleads the helpless House. This process has been gone through, not once, but five or six times in the last twelve or fifteen years, alike under Lord BEACONSFIELD and Mr. GLADSTONE, until everyone concerned, except the Bodies interested in the *status quo*, is disgusted and begins to think that any system of Government is better than the present. If there is any virtue in the new departure, for which Mr. GLADSTONE and Lord SALISBURY deserve equal praise, it will soon appear by the application of the new method to other or to all questions. A consultation of six intelligent and independent members from each side of the House would dispose of such a question as medical reform in the first week of the session.

Il Morgagni for October publishes a memoir on Nephrectomy by Dr. C. SPADARO, from which we gather that the operation has been performed in Italy ten times, with six recoveries. In Professor D'ANTONA'S last case, the clinical history of which is the basis of Dr. SPADARO'S communication, the patient, E. C——, aged thirty-four, had suffered from nephritic colic at various periods during the last ten years. The symptoms during the last eighteen months pointed to a purulent collection in the right kidney. On palpation the right flank was full and tender; the enlarged kidney extending upwards under the rib, downwards into the iliac fossa, and forwards to within two fingers' breadth of the median line. The surface of the tumour was equable and tense, but neither hard nor fluctuating. From long suffering the patient was anæmic and emaciated. Removal of the kidney having been resolved upon, as the only means of saving life, Professor D'ANTONA performed the operation on the 24th of April last. The right kidney having been exposed through the lumbar incision, a medium-sized trocar was pushed into the organ, and through it some ounces of exceedingly fetid pus were evacuated. In consequence of peri-capsular sclerosis the kidney was closely adherent to the surrounding tissues; and to facilitate enucleation the free extremity of the twelfth rib was broken and everted. The kidney and its capsule having been brought through the wound with necessary care, the pedicle proved to be short, thick, and hard. The artery and vein were included in one ligature, the ureter being tied separately; a third ligature beyond these included the whole pedicle, which was allowed to fall in, after the kidney had been detached, and PAQUELIN'S cautery applied to the free surface of the stump. The cavity was well dried, after being washed out with a 5 per cent. solution of sulpho-carbolate of zinc (*zinco solfo-fenato*). Two points of twisted suture were inserted in each angle of the wound; two drainage-tubes, free dusting with iodoform, and a bandage completed the dressing. The operation, which was performed under the carbolic spray, lasted an hour and a half. On section of the kidney, a large purulent cavity was found in its centre. The wound was dressed daily, but as it looked unhealthy and discharged fetid matter, the pedicle was exposed on the fifth day. As it was softened and had an offensive smell, a portion of it was removed, and the remainder treated with perchloride of iron. By the mouth and rectum every endeavour was made to nourish the patient, but he died from inanition on the tenth day after the operation.

Now that happily the cholera epidemic in Paris has almost died out, it seems advisable for us on this side of the Channel to see if we cannot learn some practical lessons from the experience of those who had to deal with it there. In the first place, it is clear that our arrangements must be all ready to hand. Though there is now no doubt that cases of true Asiatic cholera had occurred as far back as the first week in August, yet this was officially denied, and the outburst in November therefore came upon the authorities so suddenly that nothing was ready, and cases had to be dealt with as best they could. Secondly, the hospital accommodation was most imperfect. It was at first intended that there should be one hospital in the North and one in the South. It was, however, very soon found, as one would naturally expect, that this arrangement would not work. It was perfectly impossible to remove a patient suffering

from cholera for any distance without running a very serious risk of his dying in transit. This actually occurred in several cases, and the idea of using these two hospitals had to be abandoned. It was therefore necessary to set aside wards in every hospital in the neighbourhood of which there were any cases, and to isolate them as far as possible. This having to be done quickly, could not, of course, prove very satisfactory. It is not an easy matter at a short notice to completely "insulate" a portion of a general hospital, and to provide for a separate staff, administration, &c. Disinfection was found to be a very difficult matter to carry out efficiently. In cholera the evacuations are liable to be conveyed in all the clothing and bedding, and in addition to these the vomit, often ejected with great violence, is thrown upon walls, the ground, and the floor of rooms. The most thorough attempt to deal with the bedding and clothing was that adopted at the Hôpital de la Marimère, where a large vessel was provided in which the "infected" goods were boiled at a pressure much above that of the atmosphere. At the Hôpital St. Louis, where some wooden huts were used as cholera wards, an attempt, which proved partially successful, was made by Dr. LAILLY to burn the evacuations. They were first partly dried in a chamber at the top of a small stove, and finally thrown upon the fire itself. There seems no reason why this should not be far more efficiently carried out by receiving such of the evacuations as it is possible to collect in vessels containing charcoal. More charcoal could then be thrown on the top, and a more or less pasty mass would be formed which would be perfectly inoffensive, and could be placed directly in a small furnace, where the charcoal would materially assist in promoting its destruction. There would still, however, remain the evacuations which pass into the bedding and clothes, and these would have obviously to be dealt with specially. As regards treatment, there seems to be little if, indeed, anything new. In the stage of collapse it does not appear that any one remedy has been found to be efficacious, and the routine seems to have been simply to watch the case with a view to treating complications, while in the later stages the ordinary remedies were employed.

Annotations.

"Ne quid nimis."

THE ROYAL COLLEGE OF PHYSICIANS.

AN extraordinary Comitia of the College was held on the 9th inst., Sir W. Jenner, Bart., President, in the chair. In opening the proceedings the President made a feeling allusion to the loss sustained by the College in the death of Dr. Mahomed, and stated that Dr. J. F. Goodhart, the friend and colleague of the deceased Fellow, had consented to deliver the Bradshawe Lecture, for which Dr. Mahomed had been nominated. A communication was read from the General Medical Council requesting opinion on several important matters connected with the medical curriculum. It was referred to the Committee of Management for the Examining Board in England. Mr. Bowker, L.R.C.P. (before 1859) of New South Wales, having requested to be placed on the list of Members, his request was complied with. A report was read from the Committee of Management for the Examining Board in England, stating that arrangements had been made for commencing the scheme in January next, that the dates for holding examinations had been fixed, and synopses and schedules prepared. The committee proposed that candidates for the M.R.C.S. and L.R.C.P. who commenced study before Oct. 1st, 1884, should be admissible to further examinations under the new scheme, and that any who had passed the first or second examination at either College should be exempt from either of the examinations of the Board. The report and its recommendations were adopted. A report from the Finance Committee was also adopted. It referred, among other matters, to a proposal to procure a site on which to build examination rooms. Such a site was now available, convenient of access from either the College of Surgeons or the College of Physicians; and a Building Committee was nominated to confer with a committee of the former College upon the subject. An alteration of the bye-law relating to the appointment of examiners, rendered necessary by the formation of the new Board of Examiners, was proposed for the first time.

WELLINGTON COLLEGE.

THE recent melancholy occurrence at Wellington College of two deaths within a few days of each other—one that of a master, and the other of a pupil—has again brought prominently before the public the important question of the health of that great school. They both arose from diseases which are believed to have an intimate connexion with blood poisoning, and this cannot but give rise to a strong feeling that there is something wrong in the sanitary condition of the College or its surroundings. It will not be disputed, we presume, that it is the duty of the governors of a great institution like Wellington College to see not merely that the education of the pupils is of the best quality, but that due regard is paid also to their physical condition, and that all preventable sources of disease are removed. And on this point it appears to us that some evidence is required to prevent a charge of neglect being brought against the governors of Wellington College. At the end of last year their attention was called by the medical officer to the unsatisfactory state of health of the boys as evinced by the prevalence among them of disease of an apparently malarial type, in several instances of a severe and fatal character, and attributed by him chiefly to malaria arising from the want of subsoil drainage of the grounds surrounding the College—an opinion also held by Sir Wm. Gull. It is but fair to suppose that some steps were taken to remove, or at least ameliorate, the insanitary conditions which were thus brought under notice, but, so far as we are aware, no information has been afforded as to the measures then adopted. It would tend greatly to remove the fears which this recurrence of disease has not unnaturally excited in the minds of those having boys at the College if the governors would make known what steps they have taken and under whose advice they have acted, and if they would also furnish a numerical return showing what has been the state of health of the boys during the past year. But it is of still more importance that some guarantee should be given that the sanitary condition of the College and of the masters' houses shall be examined and reported upon by competent experts, and that the measures they may deem necessary will be carried into effect. To impart any value, however, to such a report, it is essential that it be made by persons conversant with sanitary work, and also independent of the College authorities. With this view it would be advisable on the part of the governors either to appoint a committee consisting of two medical men who have made sanitation their special study, and two first-class engineers; or, as we formerly suggested, to apply to the

Secretary of State for War to permit them to avail themselves of the services of the Army Sanitary Commission to make an exhaustive inquiry into the causes of these outbreaks of disease in the institution, and the means best adapted to obviate their recurrence. Unless some such course is adopted, and the cause of this morbific condition is fully investigated, it can hardly be doubted that the College will seriously suffer. The failure on the part of the governors to remove the cause of this prevalence of disease of a serious character indicates the necessity for some more searching inquiry than has yet been made into its nature. It would also be greatly to the advantage of the College if the suggestion we formerly made were adopted, that the medical element should be introduced into the governing body. One or more retired army medical officers who have made sanitation their study would be invaluable in keeping a watchful supervision over the health of the school, and advising their colleagues on all questions relating to the physical welfare of the boys.

"MORBID RELIGIOUS AFFECTION."

WE regret to have wounded the susceptibilities of our respected contemporary the *Tablet*, and because we are sincere in our regret, and because we do not for a moment question the sincerity of the organ of Catholic opinion, we can forgive the spirit in which the censor attacks and condemns us. We are "dogs," and "holy things" must not be exposed to us. The *odium theologicum* is as strong upon our contemporary as if he lived in the Middle Ages, and it is evidently fortunate for us that our lot has been cast in these more peaceful times. So distraught is the *Tablet* that it not only waxes wroth and calls names, but altogether mistakes both the facts and the arguments. This is how our contemporary delivers himself:—"It is not our intention to vindicate the use of the most sacred and most affecting of religious images. The reproach of the cross is as old as Christianity, and we are quite content to bear it; we desire nothing better." Now, nothing could possibly be further from our wish or thought than to condemn the use of "the cross" as a symbol or religious image. It was to the crucifix we took exception, and the "reproach of the cross" has nothing whatever to do with the matter. We will not yield place to the *Tablet* in respect for the idea symbolised or the symbol itself. We spoke not of use but of abuse; and if an Apostle could say, "If meat make my brother to offend, I will eat no flesh while the world standeth," it can scarcely have been "abominable" to ask the *Tablet* to disuse the crucifix, or in some way to control its use so as to prevent serious moral abuse, because it *is* a cause of offence, and very terrible offences too, on the part of too many who misuse it. What so grievously exasperates our contemporary and gives the acridity of extreme bitterness to his attack upon us is the inference that we must needs be disciples of "a brutal philosophy" and profess "materialism of the coarsest character," because we have remarked that "the mischief which results from thinking and speaking of the mind as something apart from the body, as more than brain function, cannot be over-estimated." We cannot expose to the writer in the *Tablet* unnecessarily scientific things. It would clearly be profane to do so. He is manifestly a philosopher who has so simply fixed his intellect on his own science as to have forgotten the existence of any other; and in this forgetfulness he is unable to perceive the difference between science and sentiment, fact and faith. We have not a word to say against any man's belief. Outside the known, there may be much that is knowable, as well as much that is unknown and unknowable, at present at least. We are *not* of those who dare to affirm a negative; to assert that because science is unable to recognise anything outside or behind organised matter there is nothing more. The scientist, as a scientist, must needs be agnostic. He has no place or right to question the elements or subjects of faith. There is nothing in the strictest science that forbids or prevents the exercise of faith. By faith a man may enter within the veil and live another life. His intellectual position is simply and logically that of the mathematician who lays aside the rigid methods and inexorable laws of his science to indulge in the pleasures of the imagination, or the laborious historian who turns from his severe study of facts to romance and poetry. We will go further, and admit that the intellectual nature requires imagination and romance and poetry for the perfect development of its parts, What we had to say, and must repeat, is that very great confusion and much mischief results from treating the mind as if it were not what it is—namely, brain-function, and that consequently the brain is reflexly influenced by particular descriptions of mental activity, and may be weakened and depraved by the cultivation of those ecstatic states which are supposed to be religious. We do not wish to wound the susceptibilities of our contemporary needlessly, or there is much that might be added to what has been already said in these columns; and we have reason to know that, if not the *Tablet*, high ecclesiastical authorities, to which even the *Tablet* would bow, have perceived the peril against which we have warned our readers, together with other besetting dangers whereto both the clergy and their flocks are exposed. We have no desire to lift the veil; we simply throw out the hint, and the warning having been given, the subject may, so far as we are concerned, be allowed to drop. Only this would we whisper in the ear of our contemporary, in all friendliness, *Prius quam incipias, consulto.....opus est.*

LECTURESHIP IN HUMAN ANATOMY, OXFORD UNIVERSITY.

THE delegates of the Common University Fund will shortly proceed to the election of a Lecturer in Human Anatomy. It will be the duty of the lecturer to lecture and to give instruction as demonstrator in conformity with the requirements of the Royal College of Surgeons and of the Examining Board for England, and he will be subject to any regulations which may be made by the delegates. The lecturer will receive a salary of £300 a year, and will not be entitled to take fees. He will be appointed for a period of five years, and will be capable of reappointment. He will not be allowed to engage in practice during his tenure of office. Candidates for the lectureship must hold the diploma of a College of Surgeons in Great Britain or Ireland. Preference will be given to candidates who have served in the office of demonstrator at an established medical school. Applications, endorsed "Lectureship in Anatomy," should be sent to the Secretary to the Delegates of the Common University Fund, New College, Oxford, not later than February 1st, 1885.

THE DIAGNOSIS OF GASTRIC DISEASE.

METHODS have been adopted from time to time with a view of determining the digestive activity of the gastric juice outside the body. Van der Velden elaborated a method for carrying out this plan by getting patients to swallow a dry sponge enveloped in a gelatinised capsule. Leube used to wash out the stomach with about 300 cubic centimetres of iced water. Recently M. Beaumetz has adopted the principle of aspiration in order to obtain some gastric juice. There appears to be no need for the practical physician to acquaint himself with the details of the procedure nor with the minutiæ of the apparatus concerned. Van der Velden said that in cancer of the stomach the secretion from this organ contained no hydrochloric acid and thus believed that an easy way was open for us to

distinguish between cancer and other chronic gastric disorders. Leube concluded that the degree of acidity of the gastric juice would give us some idea of the degree of the dyspepsia, and he drew no other conclusion from his careful study of the subject. A certain colouring matter derived from coal tar, and known as orange-poirier No. 4 or tropeoline, undergoes a change to a clear violet-red tint when a one per cent. solution is brought in contact with muriatic acid, whilst it does not lose the yellow tint with lactic and other acids. This tropeoline has been employed in testing the condition of the gastric juice. The above information is interesting, but as yet cannot be said to possess any value for clinical medicine.

SMALL-POX IN LONDON AND OTHER LARGE ENGLISH TOWNS.

THE recrudescence of small-pox mortality in London is an undoubted fact, but, speaking generally, the prevalence of the disease in other parts of England and Wales is very slight and shows no sign of increase. The deaths from small-pox in London and its outer ring of suburban districts were respectively 69, 344, and 269 in the first three quarters of the year, and in the first ten weeks of the current quarter, ending the 6th inst. 346 fatal cases were registered. The weekly returns of the Metropolitan Asylum Small-pox Hospitals afford a valuable gauge of small-pox prevalence in the metropolis. At the beginning of this year only 100 cases of the disease were under treatment in these hospitals, but by the beginning of July they had increased to 1368, after which, under the influence of the hot weather, they steadily declined to 471 on Sept. 20th, increasing again slowly to 580 on Nov. 1st. During the following five weeks ending the 6th inst. a rapid increase occurred, and on the last-mentioned date the number of cases under treatment was 1027. In the twenty seven provincial towns dealt with in the Registrar-General's weekly return, and having an estimated aggregate population of nearly five millions of persons, no such increase of small-pox mortality has taken place, such mortality having steadily declined throughout the year. The deaths from small-pox in these twenty-seven towns were 145, 121, and 56 in the first three quarters of this year, and but 22 were recorded in the first ten weeks of the current quarter. According to the Registrar-General's last quarterly return, the whole country, except the metropolitan district, was unusually free from small-pox mortality up to the end of September. Since that date only one outbreak of small-pox has been noteworthy. This occurred at Durham, where 25 fatal cases were recorded during October and November.

ADULTERATION OF DRUGS.

ATTENTION is once again being called to the fact that our drugs are as a rule largely adulterated. From the returns of the public analysts it would appear that once in four times on an average a prescription made up at a chemist's shop is not compounded of pure drugs prepared in strict accordance with the directions of the British Pharmacopœia. One out of four, at all events, is the average of samples of drugs purchased by private individuals for analysis which are found to be adulterated; but as the authorities of the Local Government Board point out, it is probable that a purchaser's suspicions have been pretty strongly aroused before he goes to the trouble and expense of having the matter investigated. Of samples purchased indifferently by the officers appointed under the Adulteration Act the proportion is much smaller, being only one-seventh; but it is sufficiently large to suggest unpleasant reflections, when we take into consideration the importance to the patient of getting exactly what is prescribed for him by the physician. Many drugs are not only adulterated or "sophisticated," but have, in addition, undergone deterioration by exposure or long keeping. The result, as the Board points out, is "that a prescription compounded of such drugs may fail altogether to produce the effect which would have been produced by drugs of proper quality." In other cases preparations of expensive drugs are unduly diluted, or a cheaper drug is intentionally substituted. That these disgraceful practices exist, and that they are of common occurrence, is well known to every chemist. In the interests of the sick and suffering we feel bound to revert to the subject, and shall not hesitate to do so until legislative action is taken in the matter. Some four years ago Mr. C. Lewis Deehl presented a report to the American National Board of Health which is worthy of careful consideration. That paper deals with a great many questions, and concludes with certain suggestions for limiting the sale of so-called "patent medicines." It is shown that the most energetic agents of the materia medica enter into their composition, often in doses which no physician with any regard for the welfare of the patient would prescribe. These dangerous doses are necessary to produce the decided and prompt manifestion on which much of their popularity depends. It is a subject for congratulation that these crying evils will before long receive attention at the hands of the Government.

ROYAL MEDICAL AND CHIRURGICAL SOCIETY.

THE subject of the tubercular bacillus has at length been brought before the notice of our leading Medical Society. A paper, based upon a most extensive and laborious research of the lesions of phthisis, with especial reference to the presence and distribution of the bacilli, was communicated by Dr. Percy Kidd on the 9th inst., and gave rise to a discussion which will doubtless be extended over the whole of the next meeting. For we cannot agree with one of the speakers that the debate should be strictly limited to the subject of the paper. It is impossible to avoid the wider bearings of the question, such as was attempted by Dr. Creighton, whose remarks implied a belief that "rod-shaped organisms" find in tubercle and in the allied infective "granulomata" a favourable nidus for their development. It was a bold thing for him to criticise as he did Professor Koch's procedure, for the wide reputation obtained by Koch is based upon his singular care and foresight in all his experiments. Dr. Creighton's contention that Koch, by the method he employed, did not prevent the introduction into his culture tubes of tubercular virus, apart from the micro-organisms, will, we hope, be met by those who have practically worked at the subject. It is of course the keystone of the whole matter as regards the proof or disproof of the specific character of the bacillus and its causal relation to tuberculosis. Besides this question, the points raised by Sir A. Clark respecting the nature of pneumonic and fibroid phthisis will open up ground for debate, which certainly could not have been exhaustively treated by prolonging the meeting last Tuesday. We may, then, anticipate a thorough discussion of these important pathological questions at the next meeting, and will reserve any further comment until that has taken place.

LOVE OF LIFE AS A DEFENCE OF CANNIBALISM.

IT would have been a bad day for the fame of English law, and a worse one for the rare fame of British sailors, if any other verdict than one of unmistakable murder had been delivered in the High Court of Justice in the case of the Queen *v.* Dudley and another, of the *Mignonette*, for killing, for the purpose of preserving their own lives, the cabin-boy without drawing lots and without his consent. Life on the high seas is surely full enough of terrors and hardships. To add to these the dread that in extremities the weakest and the youngest will be liable to be sacrificed to appease the hunger

and thirst of those whose glory it has always been to protect them in their helplessness, will be to make new demands on human hardihood—even the hardihood of one who

"Nec timuit præcipitem Africum
Decertantem Aquilonibus,
Nec tristes Hyadas, nec rabiem Noti."

We are not insensible to the sufferings of Captain Dudley and his companions. But we are none the less of opinion that their act was at once a capital crime and a deep blot on the humanity and pity of the class to which they belong, which stands out in the history of this nation and of all nations for its unselfishness, its endurance, and its consideration for the weakest even when the storm is at its worst.

THE OBSTETRIC DEPARTMENT OF THE QUEEN'S HOSPITAL, BIRMINGHAM.

THE resignation of Mr. John Clay, after a full term of active service, has placed the authorities of the Queen's Hospital in an awkward position as to the appointment of a fit successor in this important department. The committee, in view of the more perfect filling up of the vacancy, resolved to disconnect the obstetric duties of the department from the work of operating, the holder of the former office having charge of the out-patients and the midwifery, while the incumbent of the latter was to have the beds and do the operations of abdominal section. With this object before them they ascertained the willingness of the senior surgeon to the Hospital for Women to take the more responsible appointment, and called a meeting to alter the laws in accordance with their purpose. In the meantime the authorities of the Hospital for Women made it known to their senior surgeon that his election to this post would involve the probable loss of the one he at present held in connexion with their institution. This led to a correspondence in the *Birmingham Daily Post* on certain matters which it seems inadvisable to discuss in the general press, between the chairman of the Medical Committee of the Queen's Hospital on the one hand, and one of the surgeons of the Hospital for Women on the other. The outcome of this has been that the Queen's Hospital authorities have called another meeting, in which they have rescinded the law passed a short time since, and have resolved to fill up the junior vacancy only at present. It seems that there is no law at the Hospital for Women to prevent any of its officers holding an appointment at another hospital, but it is said that steps will be taken to pass one to this effect at the annual meeting of governors. In the meantime we see an unedifying spectacle—the authorities of one hospital apparently stultifying themselves in the passing and rescinding of a law to serve a particular purpose, whilst the authorities of the other hospital assume a position equally illiberal in bringing pressure to bear upon one of its officers to prevent him from exercising his judgment in the acceptance of duty in another hospital. In either case the position is a disagreeable one, and not conducive to the interests of the profession or the public.

QUEBEC LUNATIC ASYLUMS.

IT is satisfactory to learn that the damaging report made by Dr. Hack Tuke on the lunatic asylums of the province of Quebec have been fully endorsed by the Medico-Chirurgical Society of Montreal, which at a recent meeting passed a series of resolutions in support of his statements. A hope may be expressed that a thorough investigation of the system of management of the insane poor in this province may follow, and may result in the establishment in the lunatic asylums of the authority of the physicians, whose influence has hitherto been powerless to prevent the existence of the buses which Dr. Tuke has brought to light.

THE HAMPSTEAD HOSPITAL CASE.

THE agitation against the Hampstead Hospital was the first protest which was made against the establishment of centres of small-pox in populous localities, and the continuance of the protest is evidently based upon a conviction that the present small-pox hospital in that locality is a distinct source of danger to the health of those living in its vicinity. The Metropolitan Asylums Board, in their anxiety to carry out their functions in such a way as not to raise opposition, have materially reduced the number of small-pox patients at each metropolitan centre, and it yet remains to be seen what will be the total outcome of this new departure. That its sufficiency is looked upon with suspicion seems evident from the renewed inquiry which the Local Government Board have instituted with regard to the Western District Hospital, Fulham; and, unless we are very much mistaken, the decision of Mr. Justice Pearson in the case of Fleet *versus* the Managers, will, notwithstanding the fact that it was in favour of the defendants, give a decided impetus to the opposition which already exists against isolation hospitals for small-pox inside the metropolis. That judgment drew a line between small-pox hospitals in such a place as London and similar institutions in country districts, and the Judge expressed a strong conviction that when there is an epidemic of small-pox in London, there is a special increase of the disease in the neighbourhood of small-pox hospitals. This has, of course, been conclusively proved as regards both Fulham and Homerton, and in consequence of this proof great efforts have been made in order to prevent such extensions in the future; especially have efforts been made to avoid mischief from ambulances and otherwise along the lines of traffic. It is, therefore, to recent experience that we must mainly look, and at the trial adverted to the evidence went to show that notwithstanding all these changes the establishment of a small-pox hospital in London means the radiation of the infection to the area around. Dr. Gwynn of Hampstead has indeed shown that so recently as during the present year the small-pox mortality in the vicinity of the Hampstead Hospital has been about ten times as great as in the parish as a whole. We believe the dissemination of the poison to be aerial, but it is a matter of indifference to the people affected whether it comes in one way or another. The contention of the Hampstead people is that the mischief remains much as it has always been since the small-pox centre was established in their midst; and so far the evidence seems to be strongly in favour of their contention.

THE AMBULANCE SERVICE IN PARIS.

THE service for disinfecting premises and for removing patients after cases of cholera in Paris has been organised, so far as the intervention of the public authorities is concerned, by M. Besançon, chief of the Second Bureau at the Prefecture of Police. This gentleman is also entrusted with the management of the fire brigade and other public services of a similar description. Dr. Dujardin-Beaumetz, with the assistance of Prof. Pasteur and many other eminent medical men, conducted a series of experiments at the Cochin Hospital; and, having concluded in favour of disinfection by means of sulphuric acid gas, M. Besançon was called upon to carry out the instructions of the Council of Hygiene in this respect. With great difficulty he secured the services of a few men as public disinfectors, to whom comparatively high wages had to be paid. The medical men, however, who in different districts of Paris lent their aid, had very responsible duties imposed upon them, for which they received no sort of remuneration. At all hours of the day and night these voluntary medical officers were called upon to visit suspicious cases, and decide whether removal to the hospital and disinfection were necessary. It is only within the last

two years that special means of conveying infectious cases to the hospital have been organised in Paris; and these, for a population exceeding two millions, consisted of not more than five ambulance carriages. Of course this provision proved utterly inadequate when cholera broke out, and we have just been informed by M. Besançon that the number of ambulance carriages has now been raised to forty. The cold weather necessitated the installation of a warming apparatus in each of these conveyances, and blankets had also to be found. We trust that this service, hastily extemporised in view of the cholera, will be maintained as a permanent institution, and that the medical men who have so generously volunteered their services in a moment of exceptional danger will be offered a permanent position and an adequate stipend as medical officers of health in their respective districts. Without any special epidemic, forty ambulance carriages are not too many to meet the requirements of a population as large as that of Paris, if the practice of isolation in cases of infectious diseases became more general. We trust also that the disinfecting corps will not be allowed to disband, but that they will now be employed to purify houses where other diseases besides cholera could be stamped out by energetic action. If this be done, the cholera epidemic will not have visited Paris in vain, and in the long run the result will show an economy rather than a loss of human life.

THE MILLER MEMORIAL HOSPITAL.

WE stated last week that this hospital will be formally opened at Greenwich on the 17th inst. It has been founded to commemorate the late Canon Miller's connexion with Hospital Sunday; and the opening ceremony will be performed by the Lord Mayor as President of the Fund. This is the first hospital built on the circular system which has yet been opened, and additional interest attaches to it from the fact that Greenwich is the first of the metropolitan boroughs which has yet attempted to provide hospital accommodation for the poor who reside within the borough boundaries. At a meeting of the committee held on Tuesday last, to the great credit of the gentlemen composing that body, it was almost unanimously decided that the hospital should, if possible, be self-contained, and that the honorary surgeons should be Fellows by Examination of the Royal College of Surgeons of London or Dublin, or graduates in Surgery of a British or Irish university. South-east London has, therefore, determined to encourage members of the profession with the highest surgical attainments to reside in that district, and from the outset there should be no difficulty in filling up the three surgeoncies from amongst those who reside within two miles of the hospital, although the Committee have wisely provided that one of the surgeons may come from a distance.

INVALID KITCHENS.

A FORTNIGHT ago we referred to a project for the institution of invalid hotels for the accommodation of strangers during illness, and explained the circumstances and conditions under which we should consider such establishments most likely to work with profit to their owners and with benefit to the general and professional public. Following in the footsteps of this scheme comes another under the auspices of Lord Brabazon, which is certainly not less worthy of support—namely, one for the formation of invalid kitchens. It need hardly be said that these are intended to meet the wants of the sick poor only. They constitute an extension and improvement in medical treatment on the lines of the convalescent fund, now a well-known feature in the working arrangements of our hospitals and dispensaries. It is rightly urged in their support that many of the patients attending the hospital waiting-room need food in a digestible and palatable form infinitely more than medicine, while others require it not less as giving that constitutional purchase in support of medicinal treatment without the aid of which the latter may be lavished without result. The kitchens are to be placed in the neighbourhood of the various hospitals, and the certificate of one of the physicians to the effect that a patient requires invalid diet will enable him, if his case be found in other respects to be one for charitable relief, to have such food as he needs daily for a time in his own home. A small sum will be charged wherever the applicant is not too destitute. The proposed measure, if well supported and discreetly executed, will do much to remove a difficulty which has long been felt to forbid the full result of medical skill amongst the poor, and with which probably no hospital machinery will ever be able to cope with the same effect as outside voluntary effort. Contributions in aid of this deserving object may be sent to Miss Nicholson, the honorary secretary, 15, William-street, Albert-gate, S.W.

MEDICAL CHARGES AND DEATH CERTIFICATES.

THE papers have contained somewhat lengthy reports of an inquest on the body of Emily Sarah Harding, aged eighty-one, an old lady, with a limited income, who lodged at 9, Ormond-road, Hornsey-rise, and who before her death was attended for two days by Mr. Henry Foster Burnes, who called Dr. Wight into consultation. The old lady was of penurious and somewhat dirty habits, kept herself to herself, as such old ladies are apt to do till they drift into very dreadful states. In this case there was, according to Dr. Wight, a very debilitated and filthy condition with bedsores. A good inquest into the way in which she came to drift into that state would have been of public interest, and would have illustrated a large number of similar cases. But the inquest took another shape, and not unnaturally. It arose from some hitch in the granting of the certificate by Mr. Burnes. According to the nephew of the lady Mr. Burnes demanded thirty guineas as a condition of giving the certificate, enforcing his demand by telling the nephew that "otherwise an inquest would be held, which would be published in every paper in the kingdom." According to Mr. Burnes he only objected to give the certificate because the nephew did not know his aunt's exact age, and the thirty guineas were a charge which he considered "trifling" for his two days' attendance. It is rare to find a general practitioner in these days of low charges appraising his services at fifteen guineas a day! The jury seemed to find a sort of threat in Mr. Burnes's terms, and passed the following verdict:—"That the deceased died from exhaustion and old age, following extensive bedsores and partial paralysis;" adding, "We are further of opinion that the certificate of death should have been given by Mr. Burnes quite independently of the question of his medical charges. We sympathise with Mr. Harding, nephew of the deceased, and find that in every way he acted rightly and properly." As the coroner rightly pointed out, the jury had nothing to do with any dispute about medical charges between Mr. Burnes and Mr. Harding, but the demand for unusually large fees before giving a certificate was, to say the least, unfortunate, and requires explanation. Mr. Burnes must know that for this sum the old bedridden woman might have had the services of two or three skilled nurses and two or three leading consultants. We think that Mr. Burnes ought to have an opportunity of defending his conduct before the profession, though, by the way, his name does not appear in the Medical Register. It would not have been at all unreasonable

to have refused a certificate and to have demanded an inquest in such circumstances; but on his own showing he did not make this stand, but introduced money considerations, which have scandalised the public not a little and placed the medical profession in a questionable light.

PROFESSOR TYNDALL ON THE GERM THEORY OF DISEASE.

THE distribution of prizes to the successful students of the Harris Institute, Preston, was the occasion of an address by Professor Tyndall on three chief principles of modern science. The doctrine of evolution, the principle of the conservation of energy, and the germ theory of epidemic disease were the important topics on which Professor Tyndall dwelt with all his well-known powers of oratory and exposition. Of Professor Tyndall's right to discuss all these principles of science we can make not the least objection, but whether his complete acceptance of the views implied in the germ theory of disease may be regarded as a matter for congratulation or not is possibly open to doubt. But it is hardly consonant with what is really known on the matter to assert absolutely that the germ theory is proved for all the diseases which the Professor passed under review. We need only add that no new light was thrown on the question.

MILITARY HYGIENE.

A YEARLY report is issued by Dr. W. Roth which is unquestionably a valuable collection of materials bearing on the subject of sanitation amongst the armies of all countries. The current volume of the "Jahresbericht über die Leistungen und Fortschritte auf dem gebiete des Militär-Sanitätswesen" contains much that is of interest to epidemiologists as well as to general physicians. Taking some of this interesting information almost at random, we find, for example, that an epidemic of mumps was reported by Guasco to have happened at Toulouse. The local symptoms generally appeared towards the termination of the illness; the fever did not go beyond 39° C., and lasted no longer than twenty-four hours. In a fifth of the cases orchitis came on, and then the temperature rose in from twelve to twenty-four hours to 39° or 40° C.; the temperature remained at this height with marked morning remissions for from three to five days. After the swelling of the testicle had reached its height the temperature sank in from two to four days to the normal.

GEORGE SMITH OF COALVILLE.

REWARD for service done is a standing principle of equity. It does not necessarily follow, however, that the reward is proportionate to the service. It cannot always be said, indeed, that the principle itself has been honoured in the acts of those who ostensibly administered it. The kind of service which receives the highest common encouragement is usually that which we describe as interested; it is done as a matter of trade profit and for the sake of its return to the doer, not so much on account of conscience or for its yield to the general good. Perhaps it is even done unconscientiously, as it often is done quite selfishly. On the other hand, the discoverer, the reformer of abuses, the educator, and the liberator, laborious as they are in great measure or entirely disinterested, have often had to work for no visible gain to themselves, or it may be only for hazard and injury. The world about them is all for its tangible profit, as far as it understands it; it has all along been content to move chiefly by the blind interlocking of circumstances; it considers, as little as it may, causes, reasons, intrinsic truth, justice, and ideas generally, whether right or not. With this material eye it has lately looked upon the faithful service of a far-sighted and far from idle man more wise for others' benefit than his own advantage. On professional and public grounds we regret to learn that neglect has overclouded the generous efforts of Mr. George Smith of Coalville. Of him it may be said that the Brickyards and Canal Boats Acts are his work. By them many thousand children have been lifted out of a cruel drudgery into liberty and intelligence. His service therefore has been patriotic and practical. It has no doubt been the aid rendered by an irregular to the Legislature. Still it represents good, valid, and directly political work. Yet he is destitute. The State, for reasons unexplained, has not rewarded him with the oversight of his work. Nothing has been given him but a sum sufficient for temporary relief out of the Royal Bounty Fund. An application that he should be placed on the Civil List was made some years ago, but it would seem to have been so languidly pressed by its supporters that its importance was not recognised. Now we learn that the *Pall Mall Gazette* has taken up the matter, and receives subscriptions towards a testimonial fund in aid of this unselfish benefactor. We may surely expect that the Government will, on their part, not fail to requite the services of a valuable auxiliary by a suitable and sufficient remuneration from the civil fund or otherwise.

THE CHOLERA COMMISSION.

IT is announced that Drs. Klein and Gibbes have presented a preliminary report upon their investigations into cholera, which are said to be "altogether subversive of Dr. Koch's theory." The comma bacillus was not found in all cases of cholera, and never in the blood or tissues; and stress is laid upon the failure to inoculate the lower animals. We must await the publication of the full report before attempting to contrast its statements with those of Dr. Koch. It may be remembered that success has been obtained by Nicati and Rietsch and by Koch in transmitting the disease by the direct introduction of cultures of the bacillus into the duodenum; and it will be interesting to learn whether similar experiments were made by Drs. Klein and Gibbes.

DEATH AFTER REMOVAL OF THE LARYNX.

THE patient whose larynx Mr. Jordan Lloyd removed at the Queen's Hospital, Birmingham, on the 22nd ult., and whose favourable progress was noticed in these columns, had a normal temperature, and was perfectly comfortable, in the evening of the 26th. Unfavourable symptoms then set in, the temperature rose rapidly to 102°, and death ensued from pneumonia on the sixth day after the operation. The condition of the wound was throughout most satisfactory. Thirty ounces of milk were injected into the stomach morning and evening through an elastic tube, and every four hours an enema consisting of half an ounce of brandy and three ounces of milk was administered.

EXPERIMENTAL THYROIDECTOMY.

WHILST the subject of the relations of the thyroid gland to myxœdema and allied affections is attracting so much attention both at home and abroad, it will be useful to give an abstract of the results of a series of experiments performed by Schiff, who is one of the foremost workers in this field of inquiry. All the animals from which the thyroid gland had been removed died within from four to twenty-seven days after the operation; and those animals that survived more than sixteen days died after the wound had completely healed. Somnolence and indifference, slowness and hesitation of volitional movements, fibrillar contractions of the muscles, alteration of the respiratory rhythm (so-called

respiration cardiaque), sensations of itching of the skin, and diminution or disappearance of tactile sensation, were the chief phenomena observed. The excitable area of the brain did not react to the most powerful galvanic stimulation. As death approached the arterial blood-pressure underwent an extraordinary fall owing to the dilatation of bloodvessels. The muscular tremors disappeared on section of the motor nerves supplying the affected muscles. The symptoms observed in different animals varied considerably. Schiff has concluded that the thyroid gland exercises a great influence over the nutrition of the central nervous system.

A "LUNATIC" KILLED (?).

WE trust the Commissioners in Lunacy will be competent and willing to sift to the bottom a very serious case of manslaughter which the medical superintendent of the Kent County Lunatic Asylum, at Barming-heath, Maidstone, has brought under the notice of the authorities, and which the Greenwich Board of Guardians has referred to the Commissioners. A man was arrested by the police on account of "extraordinary conduct in his own house," and subsequently, strapped down and sent to the asylum, where he was placed in a strait-waistcoat and confined in a padded room. He died, and *after death* it became known that his breastbone and certain ribs were fractured. The inquiry now to be instituted is to ascertain when, by whom, and how these injuries were inflicted. The need of a searching scrutiny is evident. The investigation must not be either carelessly or only formally carried out.

A MEDICAL SOCIETY IN HARROGATE.

WE are glad to notice that a Medical Society has been established in Harrogate. The first meeting took place on the 27th inst. at the Prospect Hotel. It was opened with an inaugural address by Dr. Myrtle, President. The address was followed by a paper read by Dr. John Gordon Black. After an animated discussion the members partook of supper, and dispersed, feeling that a step had been taken towards the establishment of kindly feeling and professional and scientific intercourse.

THE HEALTH OFFICERSHIP TO NOTTINGHAM.

IN the annotation on this subject which appeared in our last issue we inadvertently omitted the names of Dr. A. Campbell Munro, M.B., D.S.C. (in the Department of Public Health), M.R.C.P.E., C.M.Edin., Medical Officer of Health for South Shields and Jarrow-on-Tyne; and Dr. R. Bryden Hill, M.D., L.R.C.S.E., B.Sc. Edin., S.Sc. C. Camb., Medical Officer of Health for Oldham, who, in addition to those mentioned last week, are candidates for the vacant post.

THE COST OF THE MEDICAL COUNCIL.

THE last meeting of the Medical Council may be reckoned to have cost the profession £1650. This is rather a big sum to pay a body for *not* doing the work of supervising medical education and examinations.

THE BACTERIA OF THE MOUTH.

WRITING in the *Deutsche Med. Wochenschrift* (Nov. 27th), W. D. Miller claims that in 1882 he described the curved bacilli in the buccal mucus to which Dr. T. R. Lewis has drawn attention as resembling the comma bacillus; and he contributes further particulars concerning the various bacterial organisms found in this region and in the alimentary canal. The curved bacilli and spirochæte forms he has been unable to cultivate in various media, and therefore they do not resemble in all respects the comma bacillus. Another organism is one which occurs in the form of short plump rods, often in pairs, and it grows rapidly in gelatine. Another variety is curved, and by the conjunction of two or more individuals produces **S**-shaped or circular forms. This organism never produces spores, and grows very slowly in gelatine.

CONFECTIONERS AS DRUGGISTS.

AN "accident," which might easily have become a great disaster, has occurred at Chester, in consequence of the manufacture of cough lozenges by confectioners. Obviously makers of sweetmeats ought not also to compound dangerous drugs. In this case the cough lozenges contained morphia, and many children were poisoned by eating of the contents of a bag stolen by some boys. Happily none of the cases proved fatal.

PROFESSOR MARIANO SEMMOLA, the distinguished representative of the Neapolitan Medical School and also of the city of Naples in the Italian Parliament, having communicated to the Academy of Medicine in Paris a monograph, "Sulla cura fisiologica del Colera" (on the Physiological Cure of Cholera), Professor Dujardin made it the subject of a lecture at the Hôpital Cochin, and maintained that of the various methods of treating cholera Dr. Semmola's had yielded the most satisfactory results.

IT is stated that a young physician in Vienna, accused of the unscientific treatment of a sore finger, was recently fined and sentenced to repeat his examinations. His appeal against the verdict was passed on to the College of Physicians; but the unfortunate man, without waiting for the final decision, committed suicide by drowning himself in the Danube. The College of Physicians, after inquiry, decided that his treatment had not caused the loss of the finger, and the High Court acquitted him.

AT a recent meeting of the Anatomical Society of Paris M. Babés read a short paper (*Progrès Médical*, Dec. 6th) on the comma bacillus in cholera, based on observations made in M. Cornil's laboratory from material obtained during the recent epidemic. His observations, which relate to the morphology of the bacillus and its behaviour in cultivation, are for the most part confirmatory of those of Koch. He did not succeed in finding the bacillus elsewhere than in the intestine.

NOTHING is as yet known respecting the appointment of a successor to the late Sir Alexander Grant. Several names have, however, been mentioned in connexion with the vacant office, amongst them being those of Professors Maclagan, Turner, Campbell Fraser, Calderwood, Masson, Sir William Thomson, Sir Alexander Christison, Principal Tulloch and Sir Lyon Playfair, the latter of whom it is, however, stated, declines to come forward.

ON the 9th inst., Sir Charles Dilke attended the meeting of the Chelsea Vestry, of which he is a member, and gave the Honourable Conrad Dillon permission to state that the Local Government Board were pledged to move for a committee on the subject of overhead wires, and it was hoped that on the report of that committee a Bill would be brought in by the Government early next session.

DR. C. S. ROY, Professor of Pathology at the University of Cambridge, has been admitted to the degree of M.A. Camb., *honoris causâ*.

A MEETING of the present and past students of the London Hospital will be held in the College Library on Tuesday next the 16th inst., at 1.15 P.M., to consider what steps should be taken towards making some presentation to Mr. James E. Adams on his retirement from the staff of the hospital through ill-health. Dr. Stephen Mackenzie will preside.

THE Broca prize of the Anthropological Society of Paris has been awarded to Dr. Leo Testut of Lille for his work entitled "Muscular Anomalies in Man explained by Comparative Anatomy; their importance in Anthropology.'

THE QUEEN has been pleased to confer the honour of knighthood on Henry Enfield Roscoe, Esq., LL.D. (Cambridge and Dublin), F.R.S., Professor of Chemistry in the Victoria University, Manchester.

OUR American exchanges announce the death of Dr. Samuel Bemiss, Professor of the Theory and Practice of Medicine and of Clinical Medicine in the University of Louisiana, aged sixty-three.

THE second and final report of the Royal Commission on Metropolitan Sewage Discharge has just been issued, and will receive attention at our hands next week.

DR. LESLIE OGILVIE has been appointed Physician to the Royal Academy of Music.

SMALL-POX is stated to be spreading with rapidity in Sydney.

THE man from whose brain Mr. Godlee recently removed a tumour continues to make satisfactory progress.

COCA AND COCAINE.

THE alkaloid cocaine was produced by Niemann in 1860 from the leaves of the Erythroxylon coca. Professor Schroff was probably the first to mention the fact of its anæsthetising effect on the mucous membrane of the tongue. The credit of rescuing cocaine from the oblivion into which it had fallen, and of giving it a practical application, unquestionably belongs to Koller, as was first announced in this country by THE LANCET of Oct. 4th. The next occasion of its public appearance was given in THE LANCET of Oct. 18th in the report of the Ophthalmological Society, where Messrs. Benson, Marcus Gunn, and Nettleship spoke of its use in ophthalmic surgery. Since that time cocaine has by a bound leaped into professional favour. The great excellences of cocaine consist in the limitation of its action to the tissues to which it is applied. No doubt other symptoms at a distance do result from the external application of the anæsthetic, but they are for the most part insignificant and by no means dangerous. In some measure cocaine may be compared with curare. The one agent paralyses the termination of the sensory nerves, whilst the other paralyses the termination of the motor nerves. Aconite would seem to act in a manner the very reverse of cocaine. The contemplation of a few facts of this kind leads one to think of the Ultima Thule of anæsthetics as likely to be not one of the least splendid triumphs of science. During the past few weeks we have published numerous letters bearing on the question, and we must refer our readers to those stepping-stones in the development of the usefulness of cocaine. Last week we published Koller's paper, which was read on October 17th at the meeting of the Vienna Royal Imperial Society of Physicians. No doubt much remains to be worked at before the full value is given to this latest addition to our armamentaria, and before a full explanation of the mode of action of the drug in the one particular respect for which it is in so great demand can be given.

Coca leaves are the produce of Erythroxylon coca, Lamarck, a shrub cultivated on the slopes of the Cordilleras of Boliva, Peru, and Columbia. The Spanish conquerors of Western South America became well acquainted with the use of coca by the aboriginal Indians. Nicolas Monardes, a Spanish physician, published at Seville in 1565,[1] a History of Medicinal Simples brought from the New World, in which he gives a description, obtained from the commentaries of Pedro Cieça and others, of coca leaves, their mode of collection and drying, and states they were their most important article of commerce, being used for barter or exchange in place of money among the South American Indians. He also describes their use of coca as being threefold. (1) It was chewed and mixed with the powder of calcined shells of oysters and other shellfish; this paste after being allowed to ferment was formed into boluses or troches, and dried; during long journeys these boluses were sucked, and under their influence hunger and thirst were alleviated and bodily strength was sustained. (2) When eaten for producing pleasure or intoxication the coca was chewed by itself; and (3) it was mixed with tobacco and smoked. Among others the following travellers have written on coca: Pöppig, Weddell, and Markham; of pharmacologists, Quincy, Pereira, and Hanbury do not mention it, nor has it been official till the last French Codex and United States Pharmacopœia. As a theme for the poet, Milton, who drew many of his similes from tropical plants and scenery, appears not to have known of it, as he does not mention it. Cowley, later, thus writes:

> "Our Varicocha first his Coca sent,
> Endow'd with leaves of wondrous nourishment,
> Whose juice suck'd in, and to the stomach ta'en,
> Long hunger and long labour can sustain;
> From which our faint and weary bodies find
> More succour, more they cheer the drooping mind,
> Than can your Bacchus and your Ceres join'd.
> Three leaves supply for six days' march afford;
> The Quitoita with this provision stor'd,
> Can pass the vast and cloudy Andes o'er."

The coca shrub grows to a height of from four to eight feet, and resembles our blackthorn in appearance. It has small white, short-stalked, drooping flowers, in clusters upon the branches in places where the leaves have fallen. The leaves are closely placed, alternate, about two inches long, oval oblong, entire at the margin; sometimes they are acute but usually blunt and emarginate, with a small apiculus in the notch at the apex, rather thin but opaque, smooth with a prominent midrib, and on each side a curved line running from the base to the apex, showing its mode of vernation. When fresh the upper surface is bright dark-green in colour, the lower is paler and strongly marked with veins. The carefully dried leaves have the odour of tea, but if dried less perfectly they have a bouquet of their own which is very unpleasant in the breath of those who chew it. They have a somewhat aromatic and bitter taste, and are more active when freshly dried. By permission we have tasted a fresh leaf in the Botanic Gardens, and the benumbing effect on the tongue—dulling its sensibility—was apparently much greater than that of a number of dried leaves.

The plants are raised from seeds, and the cultivation, at an elevation of from 2000 ft. to 7000 ft. above the sea level, is carried on with great care, as described by Dr. Weddell, who supposes the name *coca* to be derived from an Indian term signifying *the* tree or plant. Its original habitat is doubtful. It has been acclimatised in Ceylon. Botanical specimens were first sent by Joseph de Jussieu to his brother in 1750; these Antoine-Laurent de Jussieu referred to the genus Erythroxylon, and finally they served as types for Lamarck to give the plant his designation "Erythroxylon Coca" in his "Encyclopédie." The coca shrub yields three or four crops of leaves annually, from the age of eighteen months to forty years. The produce has been estimated at from thirty to forty million pounds yearly. Its value on the spot varies from amounts equal to from one to five shillings per pound English. The most productive plantations, or "cocals," are in the province of La Paz in Bolivia, but our principal imports come from Lima.

Coca was used in the religious rites of the Incas; it was by them treated with great reverence, and by their conquerors with some superstition. A Council of Bishops at Lima in 1569 condemned its use, and stated that the belief entertained by the Indians that the habit of chewing coca gave

[1] A Latin translation, by Carolus Clusius, published at Antwerp 1582, 8vo, is in the library of the Medico-Chirurgical Society.

them strength was an illusion of the devil. By the Indians working as miners or at other occupations, coca is still chewed with a paste made of the ashes of certain plants or with lime. They become more or less slaves to the habit; opinions differ as to the ill effects of this chewing on them. On Europeans who became accustomed to, but had not been addicted to, its use from youth, Dr. Weddell noticed that it did sometimes produce evil consequences, and that in some a peculiar aberration of the intellectual faculties occurred, indicated by hallucinations. His view of its action was that it deceived or lulled hunger and fatigue. The Indians who accompanied him on his journey chewed coca during the whole day, but at night they filled their stomachs like fasting men. Dr. Mantegezza of Milan, who practised in South America, further tried and wrote on its marvellous properties, as did Sir Robert Christison. Mr. G. Dowdeswell also tried it, but came to negative conclusions as to its action. Except by the force of advertisements of French specialties made from it, coca has of late received little attention in England; but now, again, the observations of Herr Koller on the local anæsthetic action possessed by its alkaloid, cocaine, have brought it to the front.

Cocaine was, as we have stated, first isolated by Niemann in 1860; he obtained it by exhausting the drug with alcohol acidulated with sulphuric acid, neutralising this liquid with lime, and filtering; the filtrate was again acidified with sulphuric acid, and the alcohol evaporated off. A semi-liquid greyish mass was obtained, containing the cocaine as a sulphate; from this solution it was precipitated with carbonate of soda, and purified by crystallisation from ether and alcohol. It is in shining monoclinic prisms, has a bitterish taste and a benumbing effect on the tongue. It requires 704 parts of water to dissolve it, it is more soluble in alcohol, freely so in chloroform, ether, and oil of cloves, and 1 in 20 respectively of melted vaseline and castor oil. The last two solutions have proved serviceable in eye cases. Manufacturers inform us that coca leaves yield only from 0·02 to 0·2 per cent. of cocaine. The leaves also contain hygrin (a volatile principle having the odour of trimethylamine) with ecgonine, coca-tannin, and coca-wax. Ecgonine (together with benzoic acid and methyl-alcohol) may also be obtained as a derivative from cocaine when the latter is heated with strong hydrochloric acid. Of its salts, the hydrochlorate has been most used; it occurs in small slender white crystalline needles, but in commerce looks like an amorphous powder. It usually has a peculiar odour, more marked than the alkaloid itself, probably due to a trace of hygrin as an impurity. Its action on the tongue and mucous surfaces is more intense than the alkaloid itself. It is soluble in one in four of water, and freely soluble in spirit. It is an antiseptic—a 5 per cent. aqueous solution delays the putrefactive changes in an extract of meat. The citrate of cocaine is in deliquescent small white crystals, and has been recommended for the use of dentists. Salicylate of cocaine, in minute snow-white crystals, has been preferred by some oculists, as it forms a solution which keeps well. An extract of coca, said to be an active preparation, is imported from South America, and a fluid extract, pastils, and wines of coca are also sold b chemists.

Before the discovery of cocaine, it was thought the alkaloid contained in it would probably prove to be identical with caffeine, or at least, like theobromine, allied to this. But chemically cocaine is quite distinct; it is much less soluble in water than caffeine; it is a strong base, which caffeine is not, and its chemical constitution and derivatives are quite distinct.

TREATMENT OF INTESTINAL OBSTRUCTION.

A DISCUSSION AT THE

LIVERPOOL MEDICAL INSTITUTION.

Dr. GEE, President, in the chair.

(*Continued from p. 1030.*)

DR. GLYNN considered that it was hardly necessary to discuss the medical treatment of intestinal obstruction; the general principles for the treatment of such cases had long been laid down, and every student even ought to be familiar with them. He necessarily thoroughly concurred with the remarks made on the inappropriateness of the administration of purgatives and enemata, on the importance of the withdrawal of almost all food, and on the value of opium. He doubted, however, whether the beneficial effects of opiates in cases of obstruction were due to their checking peristalsis. They undoubtedly lessened the vermicular movements of the intestines, but he did not believe that they could be prevented. When a dose of opium in health caused constipation, could it be supposed that it did so by virtue of its hindering the peristaltic action of the bowels, digestion being continued all the while? Moreover, in cases of obstruction of long-standing, where the intestinal walls were hypertrophied, the movements of the bowels, through the upheaving of the abdominal walls, could commonly be seen after large doses of opium or hypodermic injections of morphia. In acute cases, rumblings from the passage of flatus were frequently heard after the administration of sedatives, showing that the intestines were not at absolute rest. Dr. Glynn considered that opium should not be given with the idea of suspending the intestinal movements, as he believed that impossible. The entrance of the smallest amount of liquid food into the stomach would probably excite a flow of gastric juice, bile, and other fluids, and peristalsis be initiated. He considered opium should only be administered to relieve pain or check vomiting if excessive. With regard to operation for the relief of obstruction, he was of opinion that it could rarely be resorted to owing to the difficulty of making a diagnosis, and he thought surgical interference as a method of exploration hardly justifiable. He might illustrate the difficulties which attended making a correct diagnosis by referring to two cases which had been under his care in the Royal Infirmary. The first was that of a young man who had always enjoyed perfect health, and who was suddenly seized with pain in the right iliac region, followed by absolute constipation and incessant vomiting. On failure of the ordinary treatment to relieve the obstruction he was, at the end of three days, operated on by Mr. Reginald Harrison, when it was found that the trouble was caused by an inflammation in the neighbourhood of the cæcum, due to the eruption of a concretion from the vermiform appendix. In the second case the patient was an adult about fifty. He had been seized with sudden symptoms of obstruction without a history of any previous bowel trouble. The propriety of an operation was discussed, but no surgical interference resorted to, owing to the collapsed state of the sufferer. After death a cylindrical epithelioma of the cæcum was found, and the immediate cause of the urgent symptoms was the giving way of one of the several ulcers above the narrowed bowel.

MR. DAMER HARRISON thought it a significant fact that two or three of the previous speakers who had had a wide experience upon this subject had prefaced their remarks by stating that they had very little to say, and the debate so far had been remarkable for an entire absence of statistical information as to the results of treatment in acute cases. He had been looking through the post-mortem book of the Northern Hospital, and found that during the last four years there had been three acute cases. In the first case the obstruction was caused by a fibrous band, in the second by a loop of intestine being matted together, and in a third by the cæcum being displaced inwards beneath the free border of the mesentery. The last case was a very good illustration of the great difficulty which was met with in the diagnosis of these cases. It was that of a man who was admitted into the Northern Hospital under his care, with a history of having fallen from a height of five yards, alighting on his feet, and then again falling heavily upon his back. He complained of great pain across his back upon admission. His bowels were moved upon the two following days, but in the afternoon of the second day he began to vomit. He then gave a history of several attacks of vomiting during the previous six months, and in consequence of the history and surrounding circumstances attending the case the diagnosis was not made out until the fourth day, when the case had progressed beyond the point at which operative interference could be of any avail. With regard to treatment by laparotomy in acute cases, he could hardly agree with the statement of Mr. Thomas, "that providing a case was treated by the 'Sydenham' method it would remain in a condition favourable for operation until the third day," for he remembered two cases in which intestinal distension became troublesome in that time. Operative interference must be attempted, if at all, before any distension was present, and he therefore preferred not to accept any given time as the proper one to elapse before considering the advisability of

operation, and thought that each case should be judged of individually. With regard to how far operative treatment might be attempted in acute cases, he believed it was impossible to arrive at any conclusion until we had obtained a large amount of accurate information as to the results of treatment, and he would therefore not attempt to indicate under what circumstances abdominal section should be resorted to.

Dr. BARR highly approved of the papers read by Dr. Greves and Mr. Pughe, and was much pleased with the bold and successful line of treatment which they adopted in the very interesting case which they brought before the Society. Dr. Barr was of opinion that if surgeons were called in at an early stage of the case and operative interference more frequently practised, many valuable lives would be saved, and that the operation would not be attended by such a fearful mortality as follows it when merely used as a *dernier ressort*; or like a drowning man catching a straw. He confined his remarks to cases of acute intestinal obstruction, the symptoms of which are well-marked in pronounced cases; but he thought that different practitioners attached different values to symptoms in any given case, and hence we find that the disease seems to be very common in some men's practice, while with others of equal, if not greater, experience it is comparatively rare. If you look upon all cases where you have got severe pain in the abdomen, constipation, and vomiting, with, perhaps, more or less shock, as cases of intestinal obstruction, then, no matter what line of palliative treatment you adopt, you ought to have a very good percentage of recoveries; but if you belong to a more exclusive school, and in your anxiety for accurate diagnosis, eliminate all cases of colic, constipation, enteralgia, &c., then you will find that you have a terrible disease left, which tends more frequently towards a fatal issue than to recovery. No doubt many very severe cases, under judicious treatment—rest, starvation, opium, hypodermic injections of morphia or combined with a small quantity of atropia (which prevents the sickness and depression which morphia often occasions when administered alone),—undergo spontaneous recovery; the bowel gets out of its knot or twist, or frees itself from its constricting band, or the impacted fæces soften, and the inflamed and paralysed portion of the bowel recovers its tone, or in cases of intussusception the invaginated portion sloughs away. But these are exceptional cases rather than the rule. Dr. Barr did not advocate indiscriminate operation, in fact he was strongly adverse to operation unless there were reasonable grounds to suppose that the patient could not otherwise recover. The physician should arrive at as accurate a diagnosis as possible; the surgeon should be called in early, and then if an operation were deemed necessary, there was no use delaying it until the bowels were all glued together by peritonitis, or the patient dying of septicæmia. He was puzzled to know why acute intestinal obstruction occurring within the abdominal cavity should receive different treatment from that which it receives when arising at some of the abdominal rings. Why should an internal abdominal hernia be treated by palliatives while an external receives powerful operative interference? In the latter case, if you fail to reduce the hernia you promptly cut down and divide any constricting band. Why not, then, in suitable cases of acute occlusion adopt a similar course, even though the operation be more grave? The cases are desperate, and justify a heroic remedy. Mr. Banks had spoken in a very guarded manner about operative interference, but Dr. Barr was pleased to think he was a more bold operator than his remarks would seem to imply, as last winter Dr. Barr sent a case of strangulated hernia into the Royal Infirmary, under the care of Mr. Banks, who in the operation cut away about twelve or fourteen inches of gangrenous bowel, stitched the edges of the two portions of sound intestine together, and the patient made a perfect recovery. Dr. Barr hoped that in future such excellent surgery would extend more deeply into the abdominal cavity.

Mr. RUSHTON PARKER considered the present discussion an advance on those of past years, and also thought that Dr. Greves and Mr. Pughe were to be congratulated upon their case, which they had so skilfully managed throughout. Their treatment was justified by the result, though he agreed that good luck as well as good management were on their side. The discrepant opinions that resulted from the study of restricted varieties of case, the differences in cause, and the similarity in symptoms, alike pointed to the difficulties of diagnosis for differential purposes. The recognition of symptoms of obstruction was easy enough, but why was the separate indication of their cause so difficult? No power had yet succeeded in making this generally possible, nor was it likely that any power ever would, owing to the very nature of the cases themselves. They might be classed under the following heads:—(1) The cases where symptoms of intestinal obstruction attended acute peritonitis, due to gradual escape of fæcal matter following perforation of intestine, frequently of the vermiform appendix. In these cases the patient died of septic poisoning, though the symptoms were those of obstructed intestine. Treatment was hopeless from the first, but we did not know that until afterwards, because the obstruction symptoms were similar to those arising from other causes, and might even be palliated by appropriate treatment; but in vain, for all these symptoms were subsequently overshadowed by the fatal virulence of the poisonous absorption. (2) The cases of pure functional obstruction, a numerous class, the symptoms of which were found, as in other classes, presenting every degree of acuteness or chronicity, severity or mildness, but which under the palliative treatment that we now all profess to approve were capable of recovery in a majority of instances. (3) An intermediate class of cases of internal strangulation, including intussusception, volvulus, band, and the like, not necessarily fatal, yet largely so, though a small minority recover spontaneously, under varying and even conflicting treatment, or after abdominal section. Among these cases there were no certain methods of distinguishing the varieties at first, and under operative treatment the successes were not more numerous than without. Even to open the abdomen was to run the risk of meeting with one out of the class just referred to, and operating both unnecessarily and harmfully. The careful adoption of expectant and palliative treatment would here enable us to save cases in which recovery was occasionally possible without sacrificing some in which that result would otherwise be attained with facility. He agreed with Mr. Davidson that there was no comparison between abdominal section undertaken for ovarian or other tumours and that practised for intestinal occlusion. While the advances in operative method, dressing, and after-treatment were shared by both sets of cases, the patients in obstruction cases did not seem equally capable of recovery, whether that were due to the previous state of the bowels or to some other cause. In the first class of cases to which he had referred all treatment was futile, in the third a small minority might be assisted by palliative treatment to undergo spontaneous recovery, but the second consisted of cases of which a majority were capable of easy recovery if not improperly treated, and often if let alone. Upon these his hopes were based, and it was in the interest of these that he recommended the assiduous adoption of palliative measures uniformly in all cases, after the plan laid down by Sydenham and fully elaborated by Mr. Thomas.

(*To be concluded.*)

THE BRIGHTON WATER-SUPPLY.

ON the 6th inst. a representative body of the water interest visited the waterworks at Brighton, the extension of the works being now completed after engaging the attention of the Town Council for some time past. Previously to 1853 Brighton obtained its water-supply from a well sunk in the chalk and from private wells in the town. In that year, however, Mr. James Easton advised the sinking of other wells and the cutting of tunnels at right angles to the fissures in the chalk, by means of which the surplus water had made its way to the sea, so as to intercept the water and carry it to the pumping station. This was done, and the tunnels were extended from time to time as more water was needed. From this source the whole town was supplied until 1865, when, owing to the rapid increase of population, a greater demand for water arose, and it was determined to construct another pumping station. A well was accordingly sunk to the west of the town, where a naturally formed basin occurs, and tunnels were driven to the extent of about a quarter of a mile across the valley parallel to the sea and intersecting the fissures in the chalk. From these sources a copious and constant supply of the purest water is obtained. It is found that the fluctuations are very slight, the difference of quantity of water being felt rather by the impossibility of the pumps lowering its level than in its rising higher. The area of the district supplied is considerable, being about

seven miles in length by five miles in breadth, the ground surface being of an undulating character. It has therefore been divided into four zones or services, each fed by its own reservoir with its own system of main pipes. Each reservoir is placed at a proper level relatively to the zone it supplies, so that, while a high pressure is given, over-pressure is avoided. The various services, however, form, together with the pumping stations, one complete system, each being only disconnected from the rest by valves and stopcocks. The reservoirs are covered, and the water is in no way exposed to any contaminating influence before it runs from the taps.

Up to within a few months ago the length of the main tunnel was about 2000 ft., but it has now been lengthened some 600 ft. more, besides being deepened, thus giving more than half a mile of intercepting galleries; these additions have been effected in eighteen weeks. The total available daily supply of water is now five and a half million gallons, but of this two million gallons are daily pumped into the sea, the present demand only reaching three and a half million gallons. Considering that the company have power to widely extend their workings if necessary, it would seem that, increase as it may, Brighton can never fail in its water-supply.

THE PROGRESS OF CHOLERA.

CHOLERA cannot yet be regarded as extinct in Paris; indeed, the latest weekly record which was published on the 4th inst. is to the effect that seventy-four deaths from that disease had occurred in the city during the preceding week. The announcement is, however, accompanied by an assurance that the prevalence is really dying out. From Spain come continual reminders that although the disease fails to assume an active form, yet it still lingers in that country. Four deaths have recently occurred at Vergel in the province of Alicante, and two more are reported from Toledo. A recrudescence of cholera is also announced from Italy, fifteen cases being reported as having occurred in the province of Salerno to the south of Naples; and the rumour appears to have some grounds, since, concurrently with it, we learn of the postponement of the abolition of quarantine measures in Sardinia and Sicily.

Public Health and Poor Law.

LOCAL GOVERNMENT DEPARTMENT.

REPORTS OF INSPECTORS OF THE MEDICAL DEPARTMENT OF THE LOCAL GOVERNMENT BOARD.

Diphtheria at Godmanchester, by Dr. PARSONS.—Godmanchester was inspected by Dr. Parsons in 1880; the cottages were found to be old, dilapidated and overcrowded; the sewers were of defective construction; the water was from wells liable to pollution, and some houses had none at all; offensive midden and cesspit privies prevailed; and there was much nuisance from filth and lack of scavenging. After a lapse of three years the only improvement that has been effected is that the worst houses are no longer inhabited, and that others have been supplied with eavespouts. But the first improvement is not apparently due to the sanitary authority; it has been brought about by a decline of population. In such a district, low-lying, damp, liable to floods, and all but absolutely neglected from a sanitary point of view, diphtheria finds a foothold. The population is just over two thousand, and there were six diphtheria and two croup deaths in 1883. The recommendations urged in 1880 are again repeated in 1884, and an analysis is appended showing that the water from a well which was deemed to be least of all liable to pollution, and which the Town Councillors pronounced to be very good as the result of a draught which they took at one of their sittings, contained so much chloride and ammonia as strongly to indicate sewage contamination. On the whole we think that Godmanchester would not lose by being merged into the rural sanitary district, instead of having independent sanitary existence.

Diphtheria at Huntingdon, by Dr. PARSONS.—Huntingdon, like Godmanchester, was visited by Dr. Parsons in 1880, and as a consequence some action was taken. New sewer shafts were constructed for ventilation purposes, house-drains were disconnected, and pan-closets have replaced some old and offensive midden-privies. But some of the latter still remain in unwholesome proximity to houses and wells, and the arrangements for the removal of house refuse are unsatisfactory. There has been an extension of the town water in the place of local wells, and the old pest house has been adapted to certain isolation purposes. Ten deaths occurred from diphtheria in 1883, but not much information could, at the date of the inquiry, be elicited as to them. Some of the houses in which they were situated were in confined situations shut in by other buildings; some were in close proximity to offensive privies, and others had such means of drainage as to admit of their pollution by drain air. On the whole Huntingdon had made some substantial sanitary progress since the first inspection, but a further extension of the town water to houses still resorting to wells, the substitution of cleanly closets for the filthy privies that remain, and a better system of scavenging, are measures still needing to be carried out.

REPORTS OF MEDICAL OFFICERS OF HEALTH.

Bethnal Green.—This important parish, with an estimated population of 128,370, had in 1883 a death-rate of 23·9 per 1000, the birth-rate being 33·9, and the death-rate under one year 162 per 1000 births. Scarlet fever was the most fatal infectious disease, and it caused 174 deaths. From the account given it is evident that good work is proceeding under the recent statute as to bakehouses. Unfortunately, as regards bakehouses occupied before June 1st, 1883, closets communicating directly with the bakehouse cannot be dealt with apart from their having produced nuisance, but an inspection of 137 such places is already leading to substantial improvement in Bethnal Green. The bread bakeries are not the worst; it is in the hidden recesses of the pastrycooks' and eating-house premises that the most objectionable conditions have been discovered. The cow-sheds are also carefully looked after, and, speaking generally, they are now in fair condition. With regard to the housing of the people, Dr. Bate urges the demolition of certain courts and alleys, for, many of them being built on the vicious back-to-back system, it is impossible to secure for them adequate ventilation. He also advises automatic trough closets for such localities. The report contains a special and full account of the comparative efficiency of certain disinfecting apparatus, and it concludes by advocating Lyon's high pressure steam machine. All interested in this subject would do well to read what Dr. Bate says on this point.

Hastings (Urban). — It appears from the quarterly return of the medical officer of health for this urban sanitary district (Mr. C. Knox Shaw) relating to the three months ending September last (only just to hand) that the birth-rate was 23·7, and below the average for the corresponding quarter in recent years; while the death-rate was 17·7, and exceeded the same average. It is stated that nearly 17 per cent. of the deaths in the borough during the quarter "occurred amongst non-residents or visitors"; and it is further noted that under the heading "deaths of visitors are returned all deaths of persons" who may be "temporarily sojourning in the borough." It would be well if further and more definite explanation of the term "visitor" were added in future returns, as "temporarily sojourning" is susceptible of somewhat wide interpretation. The return before us has two very unsatisfactory features, although the gross death-rate is comparatively low. Infant mortality, measured by the deaths of infants under one year of age to births, was equal to 19·9 per cent., which is exceedingly high for such a population as that of Hastings. This excess is, to a considerable extent, due to the other fact that the zymotic death-rate for the quarter was equal to 4·97 per 1000 of the population. The deaths referred to the principal zymotic diseases included 14 from measles, 14 from whooping-cough, 2 from diphtheria, and 28 from diarrhœa. Watering-places are exceptionally liable to infection from these zymotic diseases, but a high rate of mortality from such diseases cannot, even among watering-place populations, be disregarded as evidence of unsatisfactory sanitary condition.

VITAL STATISTICS.

HEALTH OF ENGLISH TOWNS.

In twenty-eight of the largest English towns 5370 births and 4102 deaths were registered during the week ending the 6th inst. The annual death-rate in these towns, which had been equal to 20·9 and 23·8 per 1000 in the preceding two weeks, further rose to 24·4 last week. During the first ten weeks of the current quarter the death-rate in these towns averaged 21·4 per 1000, against 21·9 and 21·1 in the corresponding periods of 1882 and 1883. The lowest rates in these towns last week were 18·4 in Portsmouth, 21·3 in Wolverhampton, 21·7 in Leeds, and 21·8 in Bristol. The rates in the other towns ranged upwards to 30·2 in Blackburn, 30·9 in Sunderland, 32·5 in Preston, 32·7 in Halifax, and 38·7 in Oldham. The deaths referred to the principal zymotic diseases in the twenty-eight towns, which had been 391 and 396 in the previous two weeks, were 391 last week, and included 80 from measles, 76 from scarlet fever, 69 from whooping-cough, 52 from "fever" (principally enteric), 42 from diphtheria, 37 from small-pox, and 35 from diarrhœa. These zymotic diseases caused the lowest death-rates last week in Wolverhampton and Nottingham, and the highest in Derby and Cardiff. The greatest mortality from measles was recorded last week in Bolton and Cardiff; from scarlet fever in Sunderland and Brighton; whooping-cough in Oldham and Leeds; and "fever" in Salford, Birkenhead, and Plymouth. Of the 42 deaths from diphtheria in the twenty-eight towns, 29 occurred in London, 3 in Liverpool, and 2 in Nottingham. Small-pox caused 52 deaths in London and its outer ring of suburban districts, while no death from this disease was recorded in any of the twenty-seven large provincial towns. The number of small-pox patients in the metropolitan asylum hospitals situated in and around London, which had increased from 580 to 884 in the preceding four weeks, had further risen to 1027 on Saturday last; 263 cases were admitted during last week, against 149 and 228 in the previous two weeks. The Highgate Small-pox Hospital contained 80 patients on Saturday last, 35 cases having been admitted during the week. The deaths referred to diseases of the respiratory organs in London, which had been 354 and 511 in the preceding two weeks, declined to 499 last week, and were 11 below the corrected average. The causes of 102, or 2·5 per cent., of the deaths in the twenty-eight towns last week were not certified either by a registered medical practitioner or by a coroner. All the causes of death were duly certified in Salford, Bradford, Plymouth, Derby, and Cardiff. The largest proportions of uncertified deaths were registered in Oldham, Hull, and Wolverhampton.

HEALTH OF SCOTCH TOWNS.

The annual rate of mortality in the eight Scotch towns, which had been equal to 22·3, 26·2, and 28·6 per 1000 in the preceding three weeks, further rose to 31·8 in the week ending the 6th inst., and exceeded by no less than 7·4 the mean rate during the same period in the twenty-eight large English towns. The rates in the Scotch towns last week ranged from 22·1 and 25·2 in Edinburgh and Perth, to 35·3 in Dundee and 37·3 in Glasgow. The 768 deaths in the eight towns included 42 which were referred to whooping-cough, 34 to measles, 25 to diphtheria, 14 to diarrhœa, 13 to scarlet fever, 12 to "fever" (typhus, enteric, or simple), and not one to small-pox; in all, 140 deaths resulted from these principal zymotic diseases, against 115 and 101 in the preceding two weeks. These 140 deaths were equal to an annual rate of 5·8 per 1000, which was no less than 3·5 above the mean rate from the same diseases in the twenty-eight English towns. The fatal cases of whooping-cough, which had been 27 and 19 in the previous two weeks, rose to 42 last week, and included 15 in Glasgow, 6 in Dundee, 5 in Edinburgh, and 5 in Leith. Of the 34 deaths from measles, 17 occurred in Glasgow, 12 in Aberdeen, and 5 in Dundee. The 25 deaths attributed to diphtheria included 8 in Glasgow, 6 in Dundee, 4 in Edinburgh, and 3 in Paisley. The 14 deaths from diarrhœa corresponded with the number in the previous week; while the 13 from scarlet fever (of which 11 occurred in Glasgow) showed a further decline from recent weekly numbers. Of the 12 deaths referred to "fever" (principally enteric), 4 occurred in Glasgow, 2 in Edinburgh, and 2 in Leith. The deaths referred to acute diseases of the respiratory organs in the eight towns, which had been 101, 145, and 181 in the preceding three weeks, further rose to 231 last week, and were more than double the number (115) returned in the corresponding week of last year. The causes of 116, or more than 15 per cent., of the deaths in the eight Scotch towns last week were not certified.

HEALTH OF DUBLIN.

The rate of mortality in Dublin, which had steadily increased from 24·7 to 35·4 per 1000 in the preceding five weeks, declined to 33·2 in the week ending the 6th inst. During the first ten weeks of the current quarter the death-rate in the city averaged 29·3 per 1000; the rate during the same period being only 19·7 in London and 19·3 in Edinburgh. The 223 deaths in Dublin last week showed a decline of 15 from the high number in the previous week, and included 25 which were referred to the principal zymotic diseases, against 39 and 23 in the previous two weeks; 9 resulted from scarlet fever, 4 from measles, 4 from whooping-cough, 3 from "fever," 3 from diarrhœa, 2 from diphtheria, and not one from small-pox. These 23 deaths were equal to an annual rate of 3·7 per 1000, the rate from the same diseases being 2·3 in London and 3·4 in Edinburgh. The deaths from scarlet fever in Dublin, which had been 16 and 11 in the previous two weeks, further declined to 9. The fatal cases of measles, which had been but 1 in each of the previous four weeks, rose to 4 last week. The numbers from the other zymotic diseases did not materially differ from those in the previous week. Six inquest cases and 2 deaths from violence were registered; and the 60 deaths in public institutions showed a decline from the numbers in the previous two weeks. The 69 deaths of elderly persons exceeded the number returned in any previous week of this year. The causes of 42, or 19 per cent., of the deaths registered during the week were not certified.

THE SERVICES.

WAR OFFICE.—The Queen has been pleased to issue a new Commission of Lieutenancy for the City of London, constituting and appointing, amongst others, the undermentioned to be Her Majesty's Lieutenants within the said City—viz., William Sedgwick Saunders, Esq., M.D.; Thomas Boor Crosby, M.D.

ARMY MEDICAL STAFF.—Surgeon-General Richard Gilborne has been placed upon retired pay; Deputy Surgeon-General Adam Graham Young is granted retired pay, with the honorary rank of Surgeon-General; Surgeons-Major William Jobson, M.D., Richard Turner, M.D., and John Murray, M.B., are granted retired pay, with the honorary rank of Brigade Surgeon.

INDIA OFFICE.—The Queen has approved of the retirement from the Service of Surgeon-Major William Edward Allen, of the Bengal Army.

The undermentioned Officers are granted a step of honorary rank on retirement:—Brigade Surgeon George Vernon Currie, of the Bengal Army, to be Deputy Surgeon-General; Surgeon-Major Henry William Graham, of the Bengal Army, to be Brigade Surgeon.

ADMIRALTY.—The following appointment has been made: Frederick A. Saunders to be Surgeon and Agent at Crale and Fifeness.

SANITARY ASSURANCE ASSOCIATION.—Professor F. De Chaumont, F.R.S., presided at the third lecture on Sanitary Assurance at the Parkes Museum on the 10th inst. when Dr. Beatson lectured on "Sanitary Assurance at a Health Resort," with special reference to Bath. He said the grisly phantom of cholera had cast its shadow this year over some of the fairest places in Europe; places beautiful without, but from want of sanitation full of uncleanness within. We were told that it would find no foothold in our island. He hoped it might be so, but were there not insanitary houses in every town and city with doors open ready to receive it? In the discussion which followed, Sir Joseph Fayrer, F.R.S., Mr. F. B. Jessett, F.R.C.S., Surgeon-General Ringer and Mr. Melton Gibbs, architect, took part. The lecturer next Wednesday will be Mr. Mark H. Judge, A.R.I.B.A., and his subject "Public and Private Responsibility in Sanitary Matters."

Correspondence.

"Audi alteram partem."

DR. LOWSON'S CASE.

To the Editor of THE LANCET.

SIR,—The remarkable case of diabetes following diphtheria, which I now enclose to you, is related by the sufferer himself, Dr. Lowson, of Hull, then of Huddersfield. As Dr. Lowson received the Albert Medal for his heroism in dealing with the diphtheria in the first instance, I think I need not publish the case anonymously. Diabetes being not unknown as a sequel of diphtheria, I had little hesitation at the outset in giving Dr. Lowson a favourable prognosis.

Yours faithfully,

Dec. 7th, 1884. T. CLIFFORD ALLBUTT.

"Wycliffe House, Anlaby-road, Aug. 26th, 1884.

"DEAR DR. ALLBUTT,—The following is, I believe, an accurate description of my case:—On the 12th of November, 1879, sent for in haste, I went to see a child six or seven years of age, living about 300 yards from the surgery. Having suffered three or four days without professional assistance, I found her in a very critical state. Inspiratory laryngeal dyspnœa, with exaggerated inspiratory effort, cyanosis of the lips and face, and unconsciousness, showed me that she could not live long without help. I fetched with all speed the ordinary tracheotomy case, and opened the windpipe in the usual manner below the isthmus. Respiration did not improve sufficiently to remove the cyanosis; and as I had no pipette with me, and the danger being imminent, my only resource was to suck the wound. I need scarcely say that I gargled and washed out my mouth well at the time with water, and later on with carbolic acid solution. The child improved for a time, but died on the fourth day with diphtheritis of the wound and extensive and hard filtration for a considerable distance around. On examining the throat of the child after the operation, no false membrane was to be seen anywhere; but after a forcible expectorant effort I found that a piece had been expelled through the tracheotomy tube, and had adhered to the front of my coat. It somewhat resembled colourless fibrin clot, but was hardly so friable. On the evening of the 16th, notwithstanding my disinfectant gargling, I found myself with high fever, and, thinking I had caught cold, I took a lamp-bath and went to bed about 11 P.M. My temperature was 102°. Sore-throat followed, and soon a membranous patch made its appearance on the left tonsil. This spread along the margin of the palate, including the uvula. A smaller patch appeared on the other tonsil, and a narrow strip along the margin of the epiglottis. Separation easily occurred, and no renewed deposition took place. One night a piece hanging from the uvula, and tickling the top of the larynx, kept me a long time awake till it was expelled by retching. The throat was very sore and raw, and deglutition painful for several days after. Nothing remarkable occurred in convalescence till about the end of December, when, on testing my urine for albumen, it struck me I might as well look for sugar, and to my surprise a strong reaction resulted. I had used the ordinary sulphate of copper test, and freshly prepared Fehling gave the same result. The quantity of urine did not rise much above normal, except during the first fortnight after the discovery of the sugar. There was no diabetic thirst, and the appetite remained poor. Morphia was now taken in small doses, and a decrease in the strength of the reaction gradually took place. The whole of January my health was bad, and the spirits were depressed or apathetic. About the beginning of February I noticed a difficulty in swallowing. I had to make two or three grasps at the morsel before I could push it from the pharynx into the more lively œsophagus, and I became afraid of liquids, and had to drink slowly and with sudden gulps made with an effort. This paretic symptom did not become marked or severe, and it was, I believe, considerably aggravated by nervousness, for I gradually seemed to gain confidence, and then it disappeared; about this time the glycosuria also became intermittent. I was pleased one day to find no reaction at all. I now became careless with the medicine, either omitting it purposely or forgetting to take it. Finding, however, that this was followed by restless, fidgety, and sleepless nights, with a return of the golden precipitate, I became again more regular with my dose. The last appearance of the complaint was about the middle of April, probably due to two days' omission of the morphia mixture. In May I embarked on a two months' voyage up the Mediterranean. This worked wonders. My health improved daily at sea, and though tested many times since then, no more sugar has been detected in the urine. I have therefore been now four years free from all trace of the disease. With regard to diet, I was strict only for a fortnight. Eating gluten bread is not my *forte*, and fortunately the sugar did not increase on returning to my normal food. Besides being tested by myself, my urine was also examined by Dr. Churton at your request, when the reaction was slight, but sufficiently marked; and by Dr. Coutts (Waterfoot, Lancashire), who found a large quantity of sugar present.

"I am sorry now that I did not follow the symptoms with greater care, and that I did not make any volumetric analysis. I see that Oertel (in 'Ziemssen') mentions congestion and small hæmorrhages in the brain and cord, as well as softening around these points; also the development of lymphoid nuclei and cells and increase of areolar tissue, to the primary compressing influence of which he attributes the paralyses. As the centre of deglutition lies in the floor of the fourth ventricle, the part influenced by the diabetic puncture cannot be far off (vagus centre). May not the same cause to which the diabetes was due have also slightly affected the deglutition centre by continuity? I am afraid my case will not satisfy you, but if you wish to ask anything more I shall do my best to answer you, and if the pruning knife is required, I hope you will use it as required.

"D. LOWSON."

COCAINE.

To the Editor of THE LANCET.

SIR,—As it is only by recording clinical facts in regard to this new agent that we can arrive at just conclusions as to its value, I trust you may be able to afford me space for a brief *résumé* of some of the cases in which I have used it.

CASE 1.—W. S——, aged thirty-three, from Sleaford. This patient came under my notice in July suffering from a wound of the cornea and cataract caused by the impact of a piece of steel; no foreign body was to be seen, and his medical attendant concluded that the metal had rebounded. By means of a strong magnet, however, I discovered and extracted a large piece of steel, and subsequently removed the cataract. Last week he applied to me to be treated for closed pupil, which followed the last operation. I proposed to make an artificial pupil, operating as before without either ether or chloroform; but the patient, who on former occasions had exhibited great fortitude, appeared now to have completely lost his nerve and would not submit without an anæsthetic. I applied cocaine, assuring him that he would not suffer; he, however, insisted on an anæsthetic, and my colleague, Mr. Worth, therefore proceeded to administer ether. After a few inhalations he became alarmed, struggled violently, declared we were killing him, and refused to take any more. I said, "You have had quite enough, you won't feel it now," and proceeded to operate, fixing the eyeball and excising a portion of iris without the least manifestation of pain on the part of the patient. On interrogating him subsequently he declared that in comparison with former operations the sensation on this occasion was absolutely *nil*.

CASE 2.—Mrs. B——, aged seventy-four, from Syston, near Leicester. Extraction for cataract in left eye. A 4 per cent. solution of cocaine was dropped into the eye three times at intervals of five minutes. The operation, including a slight iridectomy, was completed without misadventure, and the patient declared she suffered but very little pain.

CASE 3.—Ann C——, aged seventy, from Whitemore. Extraction for cataract in right eye. Operation successful, with but slight evidence of pain.

CASE 4.—David C——, aged sixty-five, from Derby. Extraction for cataract in right eye. Operation successful; said he felt very little pain.

CASE 5.—William W——, from Pogmore, near Grantham. Double extraction for cataract in right eye, with cocaine instilled as in the first and other cases; left eye without. The patient bore the operations remarkably well on both eyes, but said the operation on the left was "rather keenish."

CASE 6.—W. U——, aged eighty-three, from Long Eaton.

This patient was quite blind in the right eye from retinal disease, and in the left from cataract. I extracted on the left eye as in former cases, using cocaine. The patient was absolutely immobile, and declared that he felt no pain.

CASE 7.—C. L——, aged seventy-two, from Alfreton. Iridectomy preliminary to extraction for cataract; cocaine instilled as in former cases. In this case the patient was very unruly, and complained quite as much as though no cocaine had been used.

CASE 8.—Anne R——, aged fifty, from Retford Union. Iridectomy for glaucoma in the left eye; right eye lost from the same disease six years ago. Cocaine was instilled as in former cases, but the patient complained so much of the speculum and attempts to fix the eyeball that it was necessary to administer ether before excising a portion of the iris.

CASE 9.—Sam. M——, aged seventy, from Old Bursley. Extraction for cataract in the right eye. Operation completed without misadventure. Patient said he "felt very little pain."

The above cases, which I have treated within the last three weeks, together with numerous other minor operations, such as the operation for squint, removal of tumours, probing the lacrymal duct, &c., appear to me to afford conclusive evidence of the value of cocaine as a local anæsthetic. It causes dilatation of the pupil, which I obviate when desirable by using eserine at the same time. This dilatation is, however, unlike that occasioned by atropine and other mydriatics, unaccompanied by impaired accommodation, and it will therefore take the place of atropine in cases where such dilatation is desired merely to enable us to examine the fundus of the eyeball. It will probably be also much safer to use in cases where there is any threatening of glaucoma. Cocaine acts splendidly in cases of strumous ophthalmia accompanied by great intolerance of light, and is a useful adjunct to other treatment in all painful affections of the eyeball.—I am, Sir, your obedient servant,

CHARLES BELL TAYLOR, M.D., F.R.C.S. Edin.,
Dec. 1884. Surgeon to the Nottingham and Midland Eye Infirmary.

To the Editor of THE LANCET.

SIR,—My experience of the value of cocaine as a local anæsthetic for ophthalmic operations corresponds with that of Mr. H. Power and other writers in THE LANCET.

In the early part of October the drug was procured for my use at the Sheffield Infirmary, but in consequence of the "faint praise" accorded to its efficacy at the meeting of the Ophthalmological Society on October 9th, it was just then but little employed. During the last fortnight it has been extensively tested, and the accompanying list of operations have been performed with its aid during that period, and it will be seen that they embrace a large variety. Among the largest number of cases a 2 per cent. or 4 per cent. solution has been employed; in two instances a 20 per cent. was used.

Extraction of cataract was performed on two men, aged fifty and over seventy; in another man, aged fifty-seven, opaque capsule was needled. In the first two instances no speculum was employed; in the latter, both speculum and forceps were used. A little boy, aged two, also had opaque capsule (after congenital cataract) needled. The first three operations were quite painless; no iris was removed in the extraction cases. In the case of the child, as far as could be judged, the effect was equally satisfactory.

An iridectomy for closed pupil was performed on a man, aged sixty-seven; no pain until the excision of iris.

A woman, aged about forty-five, was operated on for conical cornea, by removal of a small flap from the apex. She had several months previously had the other eye similarly and successfully treated without chloroform. The cornea, after instilling the cocaine solution twice before the operation in about eight minutes, was quite insensitive, and the operation was completed without pain to the patient.

A little boy, with sloughing ulcer of cornea; pain was relieved after dropping the cocaine solution into the eye, and the ulcer was cauterised with platinum cautery, without suffering.

Two cases of squint, one in a boy aged eleven, and the other in a girl aged eight, have been done. The former was operated upon in one eye one week and the other eye in the next week. The suffering was *nil* until the division of the tendon, and was altogether so slight that he at once after the first operation consented to a second if necessary. The girl asserted she had felt very little pain.

Tarsal cysts have been operated upon in three instances. The primary incision has appeared to cause less pain, but the introduction of the curette into the interior has occasioned the usual discomfort. A man, with hypopyon ulcer of cornea, for which keratotomy was performed, derived comfort from the use of cocaine. On the day this is written a man with pterygium has undergone operation for its cure. During the eight or ten minutes preceding the operation a 4 per cent. solution of cocaine was instilled twice, and at the time of operating the cornea and conjunctiva had become quite insensitive. A speculum was inserted, the conjunctiva seized by forceps, the pterygium separated from the cornea, and, lastly, a suture was inserted, and at the end the patient declared he had felt nothing. It should be added that during the progress of the operation the cocaine was again dropped into the eye.

Foreign bodies have been removed from the cornea in five instances; two were from lads aged thirteen and fourteen. Of the latter, a boy aged fourteen, it is stated that in four minutes after using the 4 per cent. solution the foreign body was removed without pain. In ten minutes sensation was returning. No dilatation of the pupil was observed during the time. A 20 per cent. solution was employed in one of these cases of foreign bodies in the cornea. The patient was a man aged forty-five; anæsthesia came on immediately, and in one minute after the cocaine solution was instilled the piece of metal was removed without pain. The cornea and conjunctiva remained insensitive, but in twenty minutes sensation had returned and the pupil was dilated.

This strong solution was used also in one of the cases of tarsal cysts. It appears that the strong solution acts more rapidly, and that the effects last longer than the weaker, but perhaps generally speaking a 4 per cent. solution is sufficiently powerful.

The effects on the pupil have not been so carefully noted, but I should be disposed to regard its action in this way as uncertain. In a man for whom for ophthalmoscopic purposes the drug was instilled, 4 per cent., at the end of twenty minutes there was no appreciable effect on the pupil. It remains to be seen how atropine will act in his case. In other instances, also, when the cocaine has been used for its anæsthetic effects mydriasis has not been noted; but, of course, our observations in these cases may not have been sufficiently prolonged. On the other hand, in the conical cornea, and the man for whom the needling was performed, the pupil had dilated decidedly after the lapse of the few minutes from the time of instilling the solution to that of the operation. In the girl with squint, also, at the end of eight minutes mydriasis was decidedly marked.

It should not be omitted that in a woman with extensive burn involving the lower eyelid and ocular conjunctiva the instillate of the cocaine always gave her comfort, and, when it was necessary to tear through any adhesion, lessened the pain of doing it.

In aural surgery, I believe, the drug will be of service. A few days since I pressed on to a small polypus a portion of cotton-wool soaked with a 2 per cent. solution, and on touching it afterwards sensation was distinctly deadened. It may be of use in some cases of earache, and may render aid in posterior rhinoscopy.

The effect of cocaine on the skin, as others have stated, appears to be *nil*. I have placed on the front part of my forearm a piece of lint soaked with a 20 per cent. solution of cocaine, and covered it with gutta-percha tissue. After eighteen minutes the skin was still as sensitive as the surrounding parts.

My experience has satisfied me that the drug has a real value, and that an extensive use lies before it in surgery. I am indebted to Mr. J. R. Turner for the records of my cases.

I am, Sir, yours faithfully,

SIMEON SNELL,
Ophthalmic Surgeon to the Sheffield General Infirmary.
Dec. 1884.

SCOTCH MEDICAL EDUCATION AND EXAMINATIONS.

To the Editor of THE LANCET.

SIR,—As considerable misrepresentation has latterly appeared in the London medical papers with reference to Scotch medical education and degrees that has been altogether unfair and illogical, I venture under the circumstances to

submit to your consideration the following facts. In surveying the history of British medical education for the last 100 years, it will be plainly evident that the Scotch have been decidedly in the van. The Scotch universities have not only insisted on an efficient curriculum, but have allowed none to take their degrees without undergoing a competent examination in the four essentials of medical practice—viz., medicine, surgery, midwifery, and medical jurisprudence. If we turn to England we find a different state of things prevailing there. The chief examining body—the Royal College of Surgeons—has been so considerate to the community as to allow those to qualify who had a knowledge of surgery alone, the qualification practically enabling them to undertake all the branches of the profession, with total ignorance, perhaps, of the principles of medicine and midwifery. It is only necessary to investigate the pages of the Medical Directory in order to verify this fact. It is only within the last few years that this august body have awakened from their lethargy to the due appreciation of their obligations to the public.

With regard to the relative severity of the examinations of the two countries, it will only be necessary to state the following:—Taking the University of Edinburgh as an index of the Scotch, and the Royal College of Surgeons as an index of the English, and submitting the two to the cold evidence of statistics, we find the following:—

EDINBURGH UNIVERSITY.

First Professional Examination	....	50	per cent. rejected.
Second "	"	 50	" "
Final "	"	 40	" "

This shows that in the aggregate about 85 per cent. are remitted for their degree. The Royal College of Surgeons' Primary and Final Examination show, in their results, a percentage of failures of about 65 per cent.

Nearly every professor in the University of Edinburgh has been, or is, an examiner in the University of London—viz., Professors Turner and Cunningham, Anatomy; Professor Rutherford, Physiology; Professor Crum Brown, Chemistry; Professor Fraser, Materia Medica; and Professor Balfour, Botany—and they will severally tell you that the standard in the London University is no higher than that of Edinburgh.

In conclusion, I may state that the University of Edinburgh had a chair of Pathology fifty years before that of any other medical school in the United Kingdom, and that now it is the only examining body that sets a separate paper on Pathology. Apologising for trespassing on your valuable time,—I remain, Sir, yours faithfully,

E. K. CAMPBELL, M.B. Edin., M.R.C.S.

Nov. 22nd, 1884.

CASES OF SEVERE DIARRHŒA AT THE BOOTHAM LUNATIC ASYLUM.

To the Editor of THE LANCET.

SIR,—I beg to forward you the following notes, which you may consider sufficiently interesting to record.

On the morning of the 13th ult., very numerous cases of diarrhœa of a severe type were reported to me as having occurred during the previous night among patients and attendants. In the worst cases the diarrhœa was accompanied by severe colicky pains and cramp; several (females only) were sick as well as purged; a few had severe griping pains but no diarrhœa. In the majority of cases the diarrhœa commenced at nightfall and had ceased by 10 A.M. Those affected with griping pain were relieved on the evacuation of the bowels after a dose of castor oil. The after-effects were that some patients habitually constipated said they felt better than usual; in a few the diarrhœa continued and recurred at times for a week or more; several were somewhat enfeebled for a few days; the majority were not affected in their general health.

After careful inquiry into every article of food and drink, I came to the conclusion that the roast beef which had been the almost universal dinner at midday on the 12th ult. was the only substance which could have caused the attack. I found that 158 persons had beef, or beef gravy; of these 135 had severe diarrhœa, or diarrhœa and vomiting; nine had slight diarrhœa or griping pains; thirteen (including some doubtful cases where the patients were demented and unable to give information) were not affected. Ten persons had milk diet, or minced mutton; all these were unaffected. The gravy appears to have been especially harmful; for twenty-three persons had other meat but with the beef gravy, and all these, except one who took no gravy, were similarly affected. The same beef eaten cold without gravy was not injurious. The cook had thought the beef a little dark coloured, and that the gravy did not flow freely from it when cooked. Some uncooked joints which I saw seemed to be from a well-fed beast; the fat was a good colour; the lean somewhat red and not of a bluish tinge when fresh cut, but not sodden or unhealthy looking, nor of a bad odour; the meat of the cold joints was perhaps a little dry, but nothing unnatural in smell or taste. The beast from which the meat was taken was as usual bought in the market on the Thursday previous, taken to our own slaughter-house, and there killed and cut up.

I found that the beast was a well-fed, healthy ox, which had been brought up at a farm four miles from here, where it had always been kept in company with another beast; that on the morning of Thursday it was attempted to drive the beast to market without its stall companion; the animal resisted so much, and got so wild, that after the drover had got it half way he was obliged to turn it into a field by the roadside whilst he returned to the farm he had started from, and fetched the companion beast. He then drove the two beasts together to market, and they travelled well enough. The beast was bought in the market, and on its being driven to the Asylum Farm, to the slaughter-house there, it again became furious, and the drovers had difficulty in getting it into the yard, and when shut up it continued beating itself about, and was very excited. At the time it was slaughtered the butcher noticed that the blood did not flow from the carcass as freely as it should have done, but all the parts of the beast and its internal organs were perfectly healthy.

I remain, Sir, yours truly,

CHARLES KNIGHT HITCHCOCK.

The Lunatic Hospital, Bootham, York, Nov. 1884.

"OVER-PRESSURE IN EDUCATION."

To the Editor of THE LANCET.

SIR,—Your article of Nov. 15th, on the above subject, is crushing in its clearness and force, and it is a pity that the lay press do not quote more from your journal when matters of such momentous interest to the present and rising generation are being discussed in its columns. We all know that the authority of THE LANCET in matters medical is in the end supreme, and though it may suit some officials to ignore the voice of the medical press for a time, their capitulation is eventually certain.

There is one argument against "forcing" the brain by overwork, and often useless work, in early life, and I fancy a very strong one, which I should like to point out, and it is this: that according to all we know of that organ, it is the last to reach perfection of growth and maturity of any in the body, and therefore of all others the last that should be overworked in childhood, when its specific gravity and development are utterly incomplete and unfitted to bear overstraining. Whereas the body ceases to grow after the age of twenty-five years, the brain, we know absolutely, grows in bulk for fifteen years longer; and if the mind is any index of its perfections, it certainly increases in strength and capacity for sustained work for fifteen or twenty years after that. The functions of the brain may be as stunted and crippled as those of the body often are; they may be cramped, dull, introspective, or precocious; and accordingly they require intellectual work in proportion to their development. And more than this, the functions of the brain are as much dependent on the consumption of matter in the shape of food as are those of the body; therefore it is absurd to expect the half-starved child to do the same amount of work as the well-fed one may be put to do with impunity

It is a well-known axiom that early maturity, physical or intellectual, means early decay, and if the present mode of education, by doing this, deteriorates the brain and nervous system of the rising generation of children, how much worse will it be for the next one, the produce of an enervated and morally and physically enfeebled race. The days for whipping children to death in schools are gone—let us hope never to return again. We are more refined now; we whip their brains to death instead; and if the brutality is not so repulsive to the looker-on, or so palpable, it is equally efficacious in the end, and far more cruel, as the process is slower

and its ultimate consequences are more serious, for they affect generations yet unborn.

Your correspondent, Dr. R. Macpherson, in last week's LANCET, has given a graphic account of the evils of the present system of education, and I do not believe that there is a medical man practising in England who cannot recall cases illustrating this evil of over-pressure, especially among the children of the poor.—I am, Sir, yours, &c.,

Sherborne, Dec. 1st, 1884. NATHANIEL EDWARD DAVIES.

THE LONDON UNIVERSITY.

To the Editor of THE LANCET.

SIR,—Many hard things are being said just now about the University of London, some of them indeed just, but others very unjust. The most amusing suggestion, however, comes from Manchester, and is set forth under the heading "Victoria University," and is supplied by your correspondent there. He suggests that King's College and University College should take steps to become affiliated with the so-called "University of the North." Now, Sir, while the whole body of the profession is yearning for some "conjoint scheme" we are meanwhile saddled with a twentieth licensing body, and while it seems to be the fashion to grumble at the exclusiveness and so-called tyranny of the London University, nothing is said about the intolerance and illiberality of the newest of the universities. The gateway to the Victoria is if anything more strongly guarded than that of the London, and there is added, besides, that antiquated humbug of exclusiveness which is included under the offensive word "affiliation." The medical students of King's and University Colleges will be quite capable of taking care of themselves in the matter of examinations, which are not less stiff in the northern university than the proverbial ones held at Burlington House. In the name of justice and common sense how is it that the one university is perpetually abused while the new one is pursuing vigorously unheeded the same policy to a much greater degree.

I am, Sir, yours obediently,

WILLIAM DYSON, B.A., M.D. Lond.

Sheffield, Dec., 1884.

EXAMINATION OF ARMY MEDICAL OFFICERS.

To the Editor of THE LANCET.

SIR,—With reference to my letter in your issue of the 22nd ult., wherein I advocated the desirability of allowing surgeons-major to take the examination for promotion to the rank of brigade surgeon at an earlier period than after twenty years' service, I find that the revised War Office circular of Nov. 1st has omitted the words "after twenty years' service," thus leaving the time when a surgeon-major may be examined perfectly open in future. I should fancy every such officer who wishes to pass will be afforded the opportunity between his fifteenth and twentieth year of service. This is as it should be, and the new examination, by inviting officers of this standing to take stock of their experience and to correlate it with the latest advances in military medical science, will tend to make them very accomplished indeed in this their specialty. I have been afforded an inspection of the papers given at the recent examination, the first of its kind. The questions are, as I anticipated in my previous letter, eminently practical. Every officer of any experience should, I would say, be able to give satisfactory replies to most of them. The wisdom which comes from experience, not from books, has been asked to show itself, and I do not doubt that on this first occasion it has done so.—I am, Sir, yours &c.,

December, 1884. G.

LIVERPOOL.

(From our own Correspondent.)

THE RECENT CASE OF GOOD *v.* WHITTLE AND OTHERS.

THE hardships inflicted on medical practitioners in the regular and legitimate discharge of their duties are well illustrated in the recent case of Good *v.* Whittle and others. That the defendants believed themselves to be thoroughly justified in the course they took is beyond dispute. That they had good and sufficient grounds for their belief is clearly shown by the charge of the presiding judge (Justice Cave) and the verdict of the jury. And yet the defendants' costs amount to upwards of £630, of which they will have to pay £470, one-fourth (Dr. Mould's share) having been borne by the asylum authorities. The plaintiff, as is very frequently the case, being unable to pay, the costs fall upon the defendants. A fund is being raised (as noticed in the last issue of THE LANCET), and subscriptions have already come in. It may happen to any practitioner to be placed in the defendants' position, and it is greatly to be desired that the whole amount may be raised. Dr. Nevins is the treasurer, and subscriptions may be paid to him or to the Whittle and Hutchinson Fund, North and South Wales Bank, Hardman-street, Liverpool.

THE MAYOR AND THE ROYAL SOUTHERN HOSPITAL.

For upwards of forty years it has been the custom for the newly elected Mayor to attend the morning service in state at St. Barnabas Church on the second Sunday after his election, when a sermon is preached and a collection made on behalf of the Royal Southern Hospital. In accordance therewith the Mayor (Alderman David Radcliffe) attended on the 23rd ult., when a sermon was preached by the Bishop of Sierra Leone, and a collection made which amounted to £102. After service the Mayor, accompanied by Lord Claud Hamilton, M.P., and others, visited the hospital and went through some of the wards, accompanied by members of the medical staff.

HEALTH OF LIVERPOOL.

At the weekly meeting of the Health Committee on the 4th inst. the medical officer stated that there were fourteen cases of small-pox in the new hospital, also that twenty-three cases of scarlatina had been reported, which latter were not confined to any particular locality, but were spread all over the city. The death-rate was equal to 27·5 per 1000 of the estimated population.

THE LOCK HOSPITAL.

For some months past the wards of the Lock Hospital, both male and female, have been unusually full, and the number of beds being very limited the cases are mostly syphilitic, the exceptions being gonorrhœa with severe complications, or chancroids which, from neglect, dirt, and drink, have assumed a sloughing character. Of the latter there have been several instances lately, these cases always occurring in groups; the same remark applies to cases of orchitis and epididymitis, and the more severe forms of syphilis. Dr. Bernard has recently had in his ward several cases of glassblowers, all of whom had contracted constitutional syphilis by using the blowpipe of an infected fellow-workman. The cases commenced with chancres on the lips, accompanied with enlargement and induration of the submaxillary glands, and the subsequent appearance of roseola. The genital organs were entirely free from any appearance of disease, and there could be no doubt as to the source of infection. Dr. Bernard's clinical class has been well attended.

DEATHS FROM HOMICIDAL STRANGULATION.

At the recent assizes two cases of murder by strangulation were tried before Mr. Justice Day. One occurred in Manchester, the deceased being the wife of the prisoner. She was found dead by the neighbours, whom the prisoner called in, and with certain marks of violence on her neck, which were quite inconsistent with the prisoner's statement—viz., that "she had fallen into the fender while they had a bit of a bother." The body was seen first by Mr. Berkeley, assistant to Dr. Sutton, and the prisoner was taken in custody. Dr. Sutton made the post-mortem examination, and attributed the death to asphyxia from strangulation. Dr. Cullingworth, Professor of Medical Jurisprudence at Owens College, who also examined the body, gave as his supposition that death had been caused by pressure on each side of the neck, where bruises were visible just over the course of the internal jugular vein and carotid arteries. The cerebral veins were very much congested, so also were the lungs, but not so much so as in ordinary cases of strangulation, where the windpipe has been compressed. The prisoner was convicted and executed on Monday last, having previously fully confessed his guilt. In the other case, which arose out of a drunken Irish row at Upholland, near Wigan, Dr. J. L. Molyneux gave evidence. The appearances of strangulation were well marked. The prisoner was found guilty of manslaughter, and sentenced to twelve years' penal servitude.

NORTHERN COUNTIES NOTES.

(From our own Correspondent.)

DR. ZUKERTORT, THE CHAMPION CHESS PLAYER.

DR. ZUKERTORT has been astonishing all chess-players in this neighbourhood (and our own *confrères* number a few of the best) by his fine play at the Art Gallery in this city last week. He played sixty games, winning fifty-one; he also played twelve of our best amateurs blindfold, winning or drawing all. Our phrenological citizens are nonplussed, as Dr. Zukertort is said to have no especial development of locality or individuality. The psychology is possibly no more difficult than that of a retentive memory for words; Dr. Zukertort's is for forms, pictures, and changes. I have been told by a very skilful player that he can play almost any number seeing, that there are certain openings and certain rules for moving, and that they most assist in remembering the changes and position of the pieces. To a casual observer his most wonderful feat is that of repeating, as I witnessed, all the moves of himself and opponents in a series of games played several hours before, and without a single mistake. It is quite evident that a remarkable memory for positions and combinations is required for such feats, and persons not having that memory could not by any practice excel any more than a dull prosaic man could by practice become a poet. Memory, concentrativeness, judgment, and locality appear to be at the base of Dr. Zukertort's very fine blindfold and ordinary playing.

DEATH FROM THE EFFECTS OF MORPHIA.

The city coroner held an inquest at the Infirmary, Carlisle, upon the body of a farm-servant, on Nov. 29th, the young man having died the same morning. It appears he was admitted to the infirmary on the previous Thursday suffering from a lacerated hand, sustained while working at a threshing machine, which necessitated amputation at the wrist. Under the influence of ether this was done on the Friday, and he appeared to have borne the operation well. The same evening it was deemed advisable to give him a subcutaneous dose of morphia, and by direction of the house-surgeon the resident pupil injected a quarter of a grain of morphia about half-past ten at night. About a quarter to six o'clock on the next morning the nurse on duty observed such a change in the patient's appearance that she called up the house-surgeon. The man was found to be in a dying state, and evidently from the effects of morphia. The medical evidence attributed the cause of death to some peculiarity in the system, causing morphia in such a dose to take an unusual effect. The jury returned a verdict of "Death while under the influence of morphia," adding that no blame could be attributed to anyone.

GATESHEAD DISPENSARY.

This week an election took place for the vacant office of house-surgeon at the Gateshead Dispensary, when the choice of the governors fell upon Dr. Robert Hardie of this city, who was selected from a list of fifty-eight candidates. The salary is, I am told, 200 guineas per annum with apartments, and some other advantages; but I believe the appointment has been heretofore principally sought as a capital and legitimate stepping-stone to general practice.

SMALL-POX IN DURHAM.

The medical officer in charge of the small-pox hospital in the city of Durham states that since the hospital was ready for patients (November 13th) the total number of cases admitted was sixty-three, ten of whom have been discharged well. There are now in hospital forty-nine patients, six of whom are convalescent. The usefulness of the Barracks Small-pox Hospital is being constantly demonstrated, its efficient management and kind treatment of patients having obviated all reluctance to enter it by persons when stricken with the disease. The disease is also reported as having appeared in the neighbouring towns and villages, including Bishop Auckland, Lanchester, Chester-le-Street, &c.

THE DISTRESS IN THE NORTH.

The distress in the north arising from want of employment shows as yet no signs of abatement, and it is much to be feared that our working classes here will have a bad time of it this winter. So far, the weather has been generally mild, which is a very great advantage to the poor. From Sunderland and other of our maritime towns, where so much depends on shipping and shipbuilding, complaints are very loud. The private efforts to mitigate the wants of the poor are most praiseworthy and persistent, and, except in the township of Southwick, Sunderland, I do not hear of any unusual amount of illness. At Southwick, however, principally owing to epidemics of measles and scarlatina, the mortality amongst children has been excessive.

Newcastle-upon-Tyne, Dec. 10th.

IRELAND.

(From our own Correspondent.)

ROYAL COLLEGE OF SURGEONS.

AT present the Examiners of this College are prohibited from being either private teachers or lecturers; but as it is thought that this may prevent otherwise eligible candidates from coming forward, an alteration of this rule, so far as lecturers are concerned, is by some thought advisable. A good deal may be said on both sides of the question, but the matter must be fully discussed and brought before the Fellows for their sanction before the proposed change can be adopted.

QUEEN'S COLLEGE, CORK.

The President, in his annual report recently issued, states that the total number of new students for the academic session 1883-4 was 67, and that the total number on the books of the College for the session was 293, of whom 278 were matriculated and 20 non-matriculated. As was expected from the disturbing effects of the dissolution of the Queen's University and the establishment of a new University with which the College had no official connexion, the number of new students last session was smaller than that of the preceding year, when, as was pointed out in the last report, the number had been abnormally increased by the premature entrance of a number of students who had been preparing for the College in order that they might secure the protection provided by the Act of Parliament for students of the Queen's Colleges. The total number of students was, however, considerable when we take into account the disorganising effects of the recent changes and the uncertainty and doubt created in the minds of students about to commence their University studies.

DUBLIN HOSPITAL SUNDAY.

It is believed that the collections made last month for the Dublin hospitals have been very successful, and that a considerable increase on the previous year may be confidently expected. In 1883 the sum realised amounted to £4212, and this year it is thought that £4500 may be obtained.

CASE OF ACCIDENTAL POISONING.

A Poor-law guardian named O'Dwyer, of Bansha, Tipperary, died recently from taking in mistake a dose of ammonia and camphor, which was intended to be used as a liniment. Although the medical practitioner gave verbal directions, he neglected to place a label on either bottle. The coroner's jury brought in the usual verdict of "Accidental death," and no one to blame for the occurrence.

MATER MISERICORDIÆ HOSPITAL, DUBLIN.

On last Sunday a meeting took place at this hospital for the purpose of obtaining funds to build a new wing, at an estimated cost of £18,000. In 1871 the western wing was completed, and the eastern wing, which it is now proposed to erect, will provide the accommodation which is found to be so urgently required. This will include a maternity and school for training midwives. The subscriptions promised at the meeting amount to upwards of £1000.

BEQUESTS TO MEDICAL CHARITIES.

The late Mr. Robert Billing, of the County Dublin, bequeathed £15,000 to the following charitable institutions—viz.: The Meath Hospital for Incurables and City of Dublin Hospitals, £3000 each; Rotundo Lying-in, Adelaide, and Cork-street Fever Hospitals, £2000 each. The late Mr. Gorman left nearly £50,000 to various charitable institutions in Dublin, but as the will is disputed the case will be tried on the 23rd proximo.

ENTRIES AT THE DUBLIN MEDICAL SCHOOLS.

In last week's issue, by a printer's error, the number of students who have entered for the present session were stated to have shown a decrease of nine as compared with last year. It should have been an increase of one.

Dr. McIntyre, late medical officer of Coleraine dispensary district, has been refused a retiring allowance by the guardians; Dr. Traill has given notice of motion to rescind the resolution of the board but as the matter has been decided on three occasions I fear that there is but slight hope of a satisfactory settlement.

Dublin, Dec. 9th.

PARIS.

(From our Paris Correspondent.)

DEATH OF M. MORIN.

M. MORIN, whose case was reported in my letter of last week, died on Sunday night about half past ten o'clock. The slight improvement that was noticed in the latter part of my letter was not maintained, for he gradually got worse, and on Sunday morning the thermometer marked 41° C. in the axilla. The patient seemed not to have lost his consciousness entirely, for although unable to speak he followed with his eyes the movements of the surgeon who was dressing his wounds for the last time on the morning of the day of his death, and appeared to be grateful for what was being done for him. At noon of the same day his body was covered with a cold perspiration. About 10 A.M. vomiting had set in. At 6 P.M. the patient was still conscious, and seemed to recognise the Sister of Charity and others who were attending him. He drank with avidity all that was given him, which, however, was immediately rejected. The pangs of death began soon after this, and although the patient would be regarded by some as a worthless character, yet those who surrounded him in his dying moments were much affected by his sufferings, and felt that death would be a relief to him. His body has been removed to the Morgue, where it will be subjected to examination, and in all probability the question will arise as to whether death was caused by bullet wounds or by the effects of the operations. Since her incarceration Madame Clovis Hugues, the heroine of the tragedy, has been making daily inquiries respecting the condition of her victim, and on hearing of his death was very much affected. She has since been in a depressed state of mind, at which one cannot be astonished.

INQUIRY INTO THE NATURE OF CHOLERA.

I have just received a circular letter signed M. Camescasse, Prefect of Police, forwarding a paper containing a series of questions with the view of elucidating, if possible, the nature of cholera and the origin of the late epidemic of the disease in this country. The questions which have been forwarded to every medical man in the French territory have been drawn up by a Commission of the Academy of Medicine, composed of MM. Besnier, Brouardel, Fauvel (since died), Noël-Guéneau de Mussy, Legouest, Marey, Pasteur, Proust, and Rochard. The paper is drawn up somewhat on the principle of the collective investigation system employed in England, but would be too long to be transcribed here. I may, however, give some of the heads on which the answers to the questions are to be based. In the preface of the report of the Commission it is observed that it has been ascertained from documents referring to previous epidemics that the transmission of cholera may be effected in different ways, but which do not present the same degree of danger. The contagious element seems to reside particularly in the fæcal matter, but its potency is altered according to the vehicle which conveys it. The handling of linen soiled by choleraic dejections, the drinking of water contaminated by such dejections, constitute two sorts of danger, the reality of which is demonstrated by numerous observations, and against which we must be on our guard. It is of the greatest importance to fix the duration of the stage of incubation of cholera, for the protection afforded by quarantine measures can only be efficacious if the latter are based on the knowledge of the maximum of this duration. The minimum duration is equally important to know, with the view of ascertaining as to whether any aggravation in the intensity of an epidemic could be connected, as cause and effect, which might have preceded it at a longer or shorter interval, such as the appearance of a storm, &c.

THE WATERS OF LA BOURBOULE.

In my letter headed "French Health Resorts," which was published in THE LANCET of Nov. 8th, I mentioned that the waters of La Bourboule contained as much as twenty-seven milligrammes of arsenic to the litre. I have since learned that this is an error. They are stated to contain seven milligrammes of the metalloid, and twenty-eight milligrammes of the arseniate of soda, or ten milligrammes of arsenious acid.

ELECTIONS AT THE ACADEMY OF MEDICINE.

Dr. Bergeron has been elected Vice-President of the Academy of Medicine, in the room of Dr. Fauvel, deceased; and Dr. Charpentier, Member in the Section of Obstetrics, in succession to the late Professor Depaul.

NECROPSY OF M. MORIN.

The post-mortem examination of the body of M. Morin was performed yesterday by Professor Brouardel, the Medical Jurist, in the presence of the Procureur of the Republic and other judicial authorities. The examination confirmed the different points referred to in my letter of last week, with the exception that a fragment of the bullet which struck the skull was found lodged in the meninges. Meningo-cerebritis was the result, and this was stated to be the immediate cause of death. The bullet, which entered the throat and lodged above the left clavicle, was found lower down in the chest. It was of the calibre 7 mm. = bore ·297 of the English scale, and was handed to M. Gastyne-Renette, a gunsmith, who was summoned as an expert for the prosecution. Madame Clovis Hugues was exempted from being confronted with the corpse, as is usual in such cases, owing to the delicate state of her health.

Paris, Dec. 10th.

Obituary.

DANIEL J. DUIGAN, C.B.,

DEPUTY INSPECTOR-GENERAL OF HOSPITALS AND FLEETS.

DR. DUIGAN, who died on the 2nd inst., at the age of sixty-three, belonged to an old and much-respected family in Kilkenny. He was educated in Dublin, and took the F.R.C.S.I. in 1845, the M.D. of Aberdeen in 1857, and the M.R.C.P.L. in 1860. He entered the naval service in 1844, and was employed for a year at Haslar Hospital, after which he served for seven years in the Mediterranean in the *Hibernia* and *Queen*, flagships of Admiral Sir William Parker, G.C.B. In December, 1853, he was appointed to the *Royal George*, whence he was transferred, in April, 1854, to the *Duke of Wellington*, and was engaged in the Baltic, in the operations at Bomarsund, during the Russian war, being in all the most important boat operations by night and day, as well as in the assaults on batteries, in which his conduct gained the approval of Sir H. Jones, the commanding engineer. On returning to England he was ordered to join the Naval Brigade before Sebastopol, and to take passage in the *Prince*. He escaped the dreadful fate of his fellow-passengers by his alacrity in proceeding ashore to his appointment immediately the *Prince* arrived at Balaclava, on the eve of the total wreck and disappearance of that ship. Through the terrible winter 1854-55 he served in the camp of the Royal Naval Brigade, as surgeon in charge of its second division hospital. On the return of spring, with the reopening of bombardments, he volunteered for service in the batteries and trenches, being the only officer of his rank on leaving England who was in that position; having from that time until the fall of Sebastopol, on the 8th of September, been present in the batteries on the opening day of every one of the three great bombardments. On the fatal 10th of June, being confined to his tent by a severe attack of camp fever, he rose from his bed and proceeded at dawn to his proper post in the Diamond battery under Sir William Peel's command, whose admiration he excited for his steady attention to the sufferers during that eventful day. His valour was equally conspicuous on the closing day of the siege; in fact, it may be said he was ever on the alert to be present at the

point of danger, and was never behind time there. For these services he obtained the Sebastopol medal, the fifth class of the Order of the Medjidieh, and lastly the decoration of Companion of the Order of the Bath, and the Sardinian and Turkish medals, with clasp. He subsequently served in the *Vulture* in the Mediterranean from 1858 to 1860; in the *Mersey* on the North American and West Indian station from 1860 to 1862, and at the Jamaica Naval Hospital for five years (1862 to 1867). He was employed with the Royal Marines at Deal from May, 1867, to July, 1870, and in the *Agincourt* from August, 1872, to February, 1874, when he was appointed to Devonport dockyard, which appointment he held until he was placed on the retired list, with the honorary rank of Deputy Inspector-General, in April, 1876.

Always exemplary for his kind, gentle, and courteous demeanour to all around him, for his unswerving zeal and attention to his duties, and for his oft-repeated acts of self-denial, he was esteemed by his nearest friends and companions in arms as a gentleman and officer in a truly classical sense—"Factus ad unguem." He has left a widow, two sons and a daughter, with family and friends to lament their loss.

LLEWELYN THOMAS, M.D.

LLEWELYN MORGAN THOMAS, who died on the 26th ult. at the early age of thirty-six, was educated at Dulwich School, whence he proceeded to St. Thomas's Hospital. He gained the Cheselden medal and scholarship, and on qualifying filled the office of house-surgeon and resident accoucheur. Having taken a voyage to China with the Submarine Cable Company's expedition, he became resident medical officer at the Guest Hospital, Dudley, for two years, on leaving which he was presented with a testimonial of regard. Having graduated as M.D. of Brussels, with honours in operative surgery, he settled in London about ten years ago as a specialist in throat and ear diseases, and quickly attained reputation and a good practice, as is evident by the fact that he was physician to three large institutions connected with education of the vocal and musical arts—namely, the Royal Academy of Music, Trinity College, and the Guildhall School of Music. He was also honorary aurist to the Jews' Deaf and Dumb School, and surgeon from its foundation to the Central London Throat and Ear Hospital. Although Dr. Thomas had not written much, his short essays on Diseases of the Throat and Ear, published by Churchill, were full of practical suggestions, and his opinion was valued by his colleagues as one full of sound judgment. His great devotion to his art and his extreme amiability endeared him to his patients, his colleagues, and all with whom he came in contact. The cause of his death was acute nephritis, the symptoms of which only manifested themselves three days before the fatal termination. It was characteristic of him that, although he was aware that for many months, probably years, he was the subject of Bright's disease, he had kept it to himself rather than give anxiety regarding his health to his family.

CHARLES WADSWORTH, L.R.C.P., L.R.C.S. ED.

IT is with extreme regret that we announce the death of Mr. Charles Wadsworth, which took place at his residence in Belfast on the 3rd instant. While in the discharge of his duties he contracted typhus fever (a malady to which so many Irish physicians have succumbed), and after a very severe attack he died on the twelfth day, at the early age of thirty-four. After having studied at the Belfast Medical School, Mr. Wadsworth obtained the qualification of Licentiate of the Royal Colleges of Physicians and Surgeons of Edinburgh in 1873, and commenced practice in Belfast, where he was appointed one of the district dispensary doctors. As a student Mr. Wadsworth was well known at the principal Irish athletic clubs as a most enthusiastic and very popular athlete, he having few equals at throwing the hammer and putting the weight. As a medical man Mr. Wadsworth was much respected by a wide circle of patients and friends, and at the last election of officers of the Ulster Medical Society he was chosen one of the vice-presidents. His funeral took place on Friday, 5th inst., when almost all the medical men in town were present. At a meeting of the Dispensary Committee, held on Monday, Dec. 8th, it was agreed to transfer Dr. Clements from his own dispensary district to that held by the late Mr. Wadsworth, while Dr. Torrens was also transferred to the district held by the late Dr. Martin. The election to fill the vacancies caused by these transfers will take place in a fortnight.

ROYAL COLLEGE OF SURGEONS OF ENGLAND.

AT an ordinary meeting of the Council held on Thursday last Mr. Hulke was re-elected a Member of the Court of Examiners; and Messrs. Langton and Pick were elected Members of the Court, *vice* Messrs. Cooper Forster and Savory resigned.

The Nomination Committee presented its report on the candidates for the several examinerships to be appointed by the College of Surgeons under the combined scheme of the two Colleges. The following elections were made:—

Elementary Anatomy: Messrs. J. N. C. Davies-Colley, A. P. Gould, C. W. M. Moullin, J. Black, and R. W. Reid.

Elementary Physiology: Mr. C. H. Golding-Bird.

Anatomy: Messrs. H. G. Howse, E. B. Owen, R. J. Godlee, and W. H. Bennett.

Physiology: Messrs. H. Power, W. M. Baker, and G. F. Yeo.

Midwifery: Drs. Galabin and Champneys, and Messrs. G. E. Herman and W. A. Duncan.

On the recommendation of the Nomination Committee, the following Fellows were elected members of the Board of Examiners in Anatomy and Physiology for the Fellowship of the College for the ensuing year:—

Anatomy: Messrs. Howse, Anderson, Owen, Godlee, and Morris.

Physiology: Messrs. Power, Baker, Golding-Bird, and Yeo.

Mr. Marshall's motion to reduce from twenty guineas to fifteen guineas the fee for the Diploma of Member of the College, when granted under the combined examinations of the two Royal Colleges, was postponed.

Sir James Paget, Mr. Erichsen, Sir Spencer Wells, Mr. Marshall, together with the President and two Vice-Presidents, were appointed delegates of the College to confer with an equal number of delegates of the Royal College of Physicians, respecting the arrangements whereby the two Colleges may become joint tenants of a site in Long-acre whereon to build rooms for examinations and other purposes.

Medical News.

ROYAL COLLEGE OF SURGEONS OF ENGLAND.—The following Members, having passed the Final Examination for the Fellowship on Nov. 27th, 28th, 29th, and Dec. 1st, were, at a meeting of the Council held on the 11th inst., admitted Fellows of the College:—

Bishop, Edward Stanmore, L.R.C.P. Ed., Albany Chambers, Manchester; Diploma of Membership dated July 26th, 1871.
Anderson, Alexander R., L.S.A., General Hospital, Nottingham; January 24th, 1877.
Morse, Thomas H., L.R.C.P. Ed., Prince of Wales-road, Norwich; November 20th, 1879.
Jessop, W. Hamilton Hylson, M.B. Camb., Harley-st., July 27th, 1880.
Johnson, Geo. Lindsay, M.B. Camb., Fernlea, Highfield-hill, Upper Norwood; January 24th, 1881.
White, Edwin Francis, L.S.A., Dealtry-road, Putney; April 21st, 1881.
Tait, Henry Brewer, L.R.C.P.L., Highbury-park, July 21st, 1881.
Pounds, Thomas Henderson, L.S.A., Snodland, near Rochester; July 22nd, 1881.
Cahill, John, L.R.C.P.I., Albert Gate; July 27th, 1881.
Colville, Ernest George, College-road, Eastbourne; Nov. 18th, 1881.
Dendy, Walter Chester, L.R.C.P.L., Chaplin Villa, Forest-hill; November 19th, 1881.
Hewer, J. L., M.B. Lond., Highbury New Park; Jan. 19th, 1882.
Watson, Archibald, M.D. Paris, Queensland; Jan. 23rd, 1882.
Bull, W. Charles, Bromborough, Cheshire; April 19th, 1882.
Howard, Robert Jared Bliss, L.R.C.P.I., Montreal, Canada; July 31st, 1882.
Wilson, James, M.D. Q.U.I., Money More, Derry; May 14th, 1883.

Two other candidates passed the examination, but not having attained the legal age (twenty-five) will receive their diplomas at a future meeting of the Council. Twelve candidates failed to reach the required standard, and were referred to their professional studies for one year.

The following gentlemen, having previously passed the required examination in Surgery and having obtained the

necessary Medical qualification, were admitted Members of the College on the 1st inst. :—

Dickinson, Joseph Jewitt, L.S.A., Bow-road.
Gray, Thomas Underwood, L.R.C.P.I., Essex-road.
Mullis, George William, L.S.A., Derngate, Northampton.

CAMBRIDGE UNIVERSITY.—At a congregation held on the 4th inst,, the following degrees were conferred :—

DOCTOR OF MEDICINE.—John Mackern, Gonville and Caius.
BACHELOR OF MEDICINE,—Harold Bailey Shaw, Sidney Sussex.

UNIVERSITY OF DURHAM.—At the recent examinations for degrees in Medicine and Surgery, the following candidates satisfied the Examiners :—

DOCTOR IN MEDICINE FOR PRACTITIONERS OF FIFTEEN YEARS' STANDING.

Coombs, Rowland Hill, L.R.C.P., M.R.C.S., L.S.A.
Martin, William Young, F.R.C.S.

DOCTOR IN MEDICINE (THESIS).

Robinson, William, M.B., M.S., M.R.C.S.
Sheppard, William John, M.B.
Squance, Thomas Coke, M.B., M.S.

BACHELOR IN MEDICINE.

Blackwood, Fredk. Martindale, M.R.C.S., College of Medicine, Newcastle-upon-Tyne.
Davidson, Charles Robert, Westminster Hospital.
Erulkar, Solomon Abraham, Grant Medical College, Bombay, and College of Medicine, Newcastle-upon-Tyne.
Harper, Alexander, M.R.C.S., St. Bartholomew's Hospital.
Malden, Frank James, St. Bartholomew's and College of Medicine, Newcastle-upon-Tyne.
Mears, Frederick Charles, M.R.C.S., L.S.A., London Hospital.
Newbolt, George Palmerston, St. Bartholomew's Hospital.
Pollard, Reginald, St. Bartholomew's Hospital.
Richards, George William, London Hospital.
Slater, William, College of Medicine, Newcastle-upon-Tyne.
Tanner, Charles Edward, M.R.C.S., St. Bartholomew's Hospital.
Wakefield, Mark J., College of Medicine, Newcastle-upon-Tyne.
Watson, James Russell, M.R.C.S., Charing-cross Hospital.
Wigham, William H., College of Medicine, Newcastle-upon-Tyne.

MASTER IN SURGERY.

Irvine, Robert J., M.B.

APOTHECARIES' HALL.—The following gentlemen passed their examination in the Science and Practice of Medicine, and received certificates to practise, on Dec. 4th :—

Barrett, William Amherst Henry, St. Thomas's Hospital.
Cory, Isaac Rising, St. Thomas's Hospital.
Gray, John Alfred, St. Bartholomew's Hospital.
Martin, Francis George Clifton, London Hospital.
Oldham, Montague Williams, Guy's Hospital.
Relton, Bernard, St. Thomas's Hospital.
Sydenham, George Francis, St. Bartholomew's Hospital.
Wade, Charles Henry, London Hospital.
Yeoman, Charles, St. Thomas's Hospital.

The following gentlemen also on the same day passed the Primary Professional Examination :—

Samuel Constable, Dublin and St. George's Hospital; Edward Soy King's College.

AN anonymous donor has given £1000 to the Swansea Hospital.

ON the 6th inst., Mrs. Gladstone opened a Maternity Home in Shadwell.

THE Library of the Royal College of Surgeons of England will be closed on Friday and Saturday the 26th and 27th inst.

A STRANGE FREAK.—A man was recently admitted into the City of Dublin Hospital who had swallowed seventeen half-sovereigns.

THE Fancy Fair in Glasgow, held with the object of raising sufficient funds to build a sick children's hospital, closed on the 29th ult., the sum obtained being £20,011.

VACCINATION GRANT.—Dr. Horace Lowther, of Ventnor, has been awarded the Government grant for efficient vaccination in his district.

THE Corporation of Reading has approved the erection of a one-storey building for use in the isolation of cases of scarlet fever, and of a public mortuary for the town, at a total cost of about £700.

ON the 17th ult., on the occasion of the newly elected Mayor of Stockport attending divine service in state, the collection on behalf of the local infirmary amounted to £130.

SUPERANNUATION.—Mr. George Bland, L.R.C.P., L.R.C.S.Ed., late medical officer for the Eastchurch district and the workhouse of the Sheppey Union, has been awarded a superannuation allowance of £50 a year.

AT a tea party at Oldham last week some twenty of the guests were attacked with serious illness. All the sufferers were said to have partaken of cured tongue which had been enclosed in a tin vessel.

THE Leicester Board of Guardians have, we understand, decided to proceed with the prosecution of defaulters under the Vaccination Acts. This will be no light task, as the malcontents are said to number about 4000.

WEST KENT MEDICO-CHIRURGICAL SOCIETY.—The third meeting of the twenty-ninth session, 1884–85, was held at the Royal Kent Dispensary, Greenwich-road, on Friday evening, the 5th inst., when Dr. Horrocks, of Guy's Hospital, read a paper on "Inflammation of the Cervix Uteri."

A MUNIFICENT BEQUEST TO SYDNEY UNIVERSITY.—The Sydney University has just become entitled to a bequest of £180,000, in accordance with the terms of the will of Mr. Challis, a wealthy colonist, who has adopted this mode of perpetuating his memory.

AN inquest was held recently at Hatfield on the body of Mr. Charles Wade, surgeon, who died suddenly on the 28th ult., whilst present at an entertainment. The jury, having heard medical evidence to the effect that death was due to fatty degeneration of the heart, returned a verdict accordingly.

HOSPITAL SATURDAY FUND.—At a meeting on Wednesday last of the delegates of this fund, regret was expressed that the majority of participating institutions still refuse to open their doors to applicants for relief during the evening, when working people could attend without loss of valuable time.

THE ROYAL HOSPITAL FOR INCURABLES.—The annual meeting of the governors and subscribers of this charity was held on the 28th ult. The secretary stated that financially the past year had been a prosperous one, the total income as compared with the previous year showing an increase of £6731. In November of last year the number of beneficiaries of the hospital was 654, and 50 have been since elected.

GLASGOW WESTERN INFIRMARY.—The tenth annual general meeting of the supporters of this institution was held on the 27th ult. The number of out-patients treated during the year was 22,039, as compared with 18,905 in the previous twelve months; and of in-door patients 3777, as against 3927. The ordinary income for the year amounted to £13,359, while the expenditure was £18,589. The extraordinary income consisted of £14,433 derived from legacies.

THE death has recently occurred of Dr. Augustus Voelcker, F.R.S. Educated at Göttingen the deceased came over in early life to England, and successively held the posts of assistant to the late Professor Johnston at Edinburgh, Professor of Chemistry in the Royal Agricultural College at Cirencester, and Professor of Chemistry to the Royal Agricultural Society of England. He was well known as the author of several works on theoretical and agricultural chemistry, such as the "Chemistry of Food" and the "Chemistry of Manures."

THE INVENTOR OF THE TELEGRAPH.—On August 27th a deputation from the Royal Society of Victoria waited upon the Premier of the Colony with the view of urging the claims of Dr. Davy as an inventor of the electric telegraph on the attention of the Government. It was finally decided that, pending the endeavour of the Premier to obtain the insertion by the Home Government of Dr. Davy's name in the civil list, a motion should be made in the legislative assembly for £100 to be placed on the estimates this year for Dr. Davy, the Government undertaking to support the motion.

CLINICAL, MEDICAL, AND GENERAL LIFE ASSURANCE SOCIETY.—The sixtieth annual general meeting of this Society was held on the 28th ult., when a very satisfactory report was presented. The three completed years of the current quinquennium show, when compared with those of the previous period, that while the new business has been substantially greater, the revenue has increased in an augmented ratio, and the additions to the assurance fund have been larger, the death claims relatively to the sum assured, and the working expenditure proportionately to the income, have been less.

HEALTH CONFERENCE IN MANCHESTER.—A meeting was held in Manchester on the 5th inst., for the purpose of making arrangements for holding a conference in that city next Easter, on subjects connected with health and education. Among the subjects proposed for discussion are overpressure, cheap meals for school children, the protection of the sight, the spread of disease in schools, and the means of isolation.

THE PARKES MUSEUM OF HYGIENE.—The ordinary general meeting of the members of the Parkes Museum was held on the 4th inst. The report set forth the work done in connexion with the Museum during the past year, which had included lectures by the Council of the Sanitary Assurance Association, in addition to those arranged by the Council of the Museum. The accounts showed that there was urgent need for increased subscriptions if the Museum was to be continued, for the small invested capital had had to be made use of this year to meet the current expenses. On Wednesday the second of the series of three popular lectures on "Precautions against Cholera" was given by Mr. Shirley Murphy, medical officer of health for St. Pancras, particular attention being drawn to this lecture to the subject of local precautions.

THE HOSPITALS ASSOCIATION.—The session of 1884–85 was opened with a soirée at the rooms of the Medical Society of London, on Saturday evening last, when there were present the lady superintendents and secretaries of most of the principal hospitals in the metropolis, besides other distinguished guests, and a very enjoyable evening was spent. The attractions included music and recitations, and a short address by Major Ross, M.P., the chairman of the Council. The first general meeting of the Association will be held on the 17th inst., Dr. Buchanan, F.R.S., presiding, when Professor Marshall, F.R.S., will deliver a lecture on "Hospital Circular Wards," and Mr. Keith Young will read a paper entitled "A short Description of the Miller Memorial Hospital," which hospital will be opened the same day at Greenwich.

PRESENTATIONS.—Dr. R. D. Williams was recently presented with an illuminated address and a salad bowl by the employés of the Landove Tin Scale works on the occasion of his marriage.—Dr. Daxon, of Ennis Lunatic Asylum, has, on his retirement, been presented with an address and a valuable clock by the officers and attendants.—Dr. Peregrine has been presented, on the occasion of his departure from Silchester, with an ebony inkstand, as a mark of the esteem in which he and his family are held.—Dr. Dodds, who has been appointed Deputy Superintendent of the Montrose Asylum, was presented on the 28th ult. with a handsome timepiece by the officers and staff of the Birmingham Borough Asylum. The presentation was made by the superintendent on behalf of the subscribers, who spoke in the highest terms of Dr. Dodds. The timepiece was of black marble in the shape of a temple, striking the hours and half-hours on a gong.

Medical Appointments.

Intimations for this column must be sent DIRECT *to the Office of* THE LANCET *before 9 o'clock on Thursday Morning at the latest.*

BLACKMORE, ALFRED, M.R.C.S., L.S.A.Lond., has been appointed Medical Officer for the First District of the Manchester Township.

CLARKE, JAMES ADAMS, L.K.Q.C.P.I., L.R.C.S.I., has been appointed Medical Officer for the Bushey District of the Watford Union, vice Hicks.

COSGRAVE, E. MACDOWEL, M.D., Ch.M., L.K.Q.C.P.I., L.R.C.S.I., has been appointed to the Chair of Botany and Zoology in the Carmichael College, Dublin.

DEATH, ROBERT, M.R.C.S., L.S.A.Lond., has been reappointed Medical Officer of Health for the Borough and Union of Buckingham.

DODDS, W. J., M.D., D.Sc., has been appointed Assistant Medical Superintendent to the Montrose Royal Lunatic Asylum.

FOX, W. PIERCY, L.R.C.P.Ed., L.R.C.S.Ed., has been appointed Resident Medical Officer to the Rochdale Infirmary, vice Herbert M. Gay, M.B., resigned.

GOULD, A. PEARCE, M.S.Lond., F.R.C.S.Eng., has been appointed Surgeon to the Hospital for Epilepsy and Paralysis, Regent's-park, vice Prof. Godlee, resigned.

GUBB, ALFRED S., M.R.C.S., late Resident Obstetric Assistant at Westminster Hospital, has been appointed Resident Medical Officer to the French Hospital, Leicester-square.

HALL, ALFRED, M.R.C.S., has been appointed Medical Officer for the Calton District of the Ashbourne Union, vice J. B. Hall.

LAMB, WILLIAM, M.D., C.M.Ed., has been appointed Medical Officer for the Arnold District of the Basford Union.

LANGFORD, HENRY EDWARD, M.D.Ed., M.R.C.S., has been appointed Medical Officer for the Kidderminster No. 2 District of the Kidderminster Union, vice Roden.

MOORE, ADAM JAMES, M.R.C.S., L.S.A.Lond., has been reappointed Medical Officer for the Parish of St. Lawrence, Reading Union.

PRAGER, ISIDORE FRED., L.D.S., L.R.C.S.I., late Assistant House-Surgeon, has been appointed House-Surgeon to the National Dental Hospital.

RUNDLE, EDMUND, L.K.Q.C.P.I., L.R.C.S.I., L.M., of Porthleven, has been appointed Medical Officer and Public Vaccinator for the newly-formed District of Lithney, in the Helston Union, Cornwall.

SCOTT, CHARLES CASELY, M.B., C.M.Ed., has been appointed Medical Officer for the Isleworth District of the Brentford Union, vice Hunter, deceased.

STRUGNELL, WALTER T., M.R.C.S., L.S.A.Lond., has been appointed House Surgeon to the Great Northern Central Hospital, Caledonian-road, N., vice F. A. Stokes, M.R.C.S., resigned.

SUFFERN, A. C., M.D., M.Ch., has been appointed Assistant Medical Officer to the Borough Asylum, Winson-green, Birmingham, vice Dr. Dodds, resigned.

SYMONS, J. GEO. RENNY, L.R.C.P.Ed., M.R.C.S., has been appointed Medical Officer for the Third District of the Holsworthy Union, vice Pearce.

WILLIAMS, P. WATSON, L.R.C.P., has been appointed Clinical Assistant to the Birmingham Borough Asylum, vice J. D. Bush, resigned.

Births, Marriages, and Deaths.

BIRTHS.

CUFFE.—On the 8th inst., at Dundalk, the wife of Surgeon-Major C. McDonogh Cuffe, C.B., Medical Staff, of a son.

HOWLETT.—On the 7th inst., at 4, Wright-street, Hull, the wife of E. H. Howlett, F.R.C.S., of a son.

MASON.—On the 6th inst., at Pear Tree House, South Ockendon, the wife of A. Haynes Mason, L.R.C.P., of a daughter.

MOORE.—On the 2nd inst., at Bareilly, India, the wife of Surgeon-Major J. H. Moore, Medical Staff, of a son.

REYNOLDS.—On the 7th inst., at Stamford-hill, N., the wife of W. Percy Reynolds, L.R.C.P.Lond., M.R.C.S., of a daughter.

SKEEN.—On the 28th ult., at Patiála, Punjab, the wife of Surgeon-Major A. Skeen, M.B., I.M.D., of a daughter.

WHITING.—On the 2nd inst., at Ebury-street, Eaton-square, S.W., the wife of James D. C. Whiting, M.R.C.S., of a son.

MARRIAGES.

ROW—DEMPSTER.—On the 26th ult., at Stoke Damerel Church, Devonport, Frederick Everard Row, M.R.C.S., L.R.C.P.E., son of Fredk. Row, M.D., J.P., to Eleanor Elizabeth Carroll (Nella), eldest daughter of the late James Carroll Dempster, M.D., Deputy Surgeon-General, A.M.D.

SPOONER—ARCHER.—On the 2nd inst., at St. John's Church, Hackney, Fred. H. Spooner, M.D., of Howard House, Clapton, to Jane Lovesque, eldest daughter of Thos. Archer, Esq., F.R.H.S., of Kenninghall-road, Clapton.

WILDE—MARTIN.—On the 6th inst., at St. John's, Crawley, Sussex, by the Rev. J. Barrett Lennard, M.A., Frederick Wilde, M.R.C.S., to Margaret Helen, second daughter of T. H. Martin, M.R.C.S., of Crawley.

WILSON—WILSON.—On the 4th inst., at St. Michael's Church, Headingly, Samuel Wilson, M.R.C.S., L.S.A.Lond., of Mare-street, Hackney, to Hannah, youngest daughter of the late Joseph Wilson, Esq., of Melville House, Batley, Yorks.

DEATHS.

BANISTER.—On the 6th inst., at Eastbourne, George Banister, late Surgeon-General, Indian Army, aged 64.

DUIGAN.—On the 2nd inst., at his residence, Edith-road, West Kensington, Daniel John Duigan, C.B., M.D., Deputy Inspector-Gen. of Hospitals and Fleets, R.N., in his 63rd year.

GIBSON.—On the 5th inst., at his residence, 9, River-street, Myddelton-square, E.C., John Billerwell Gibson, M.R.C.S., aged 73.

LAY.—On the 4th inst., at Pesenhall, Suffolk, Joseph John Lay, M.D., M.R.C.S., L.S.A.Lond., aged 70.

MUSCROFT.—On the 5th inst., at Pontefract, Henry Muscroft, M.D., in his 55th year.

ROBERTSON.—On the 2nd inst., at Bath, James Robertson, M.D., M.R.C.S., F.L.S., &c., formerly of the City of Rochester, aged 45.

N.B.—*A fee of 5s. is charged for the Insertion of Notices of Births, Marriages, and Deaths.*

METEOROLOGICAL READINGS.

(Taken daily at 8.30 a.m. by Steward's Instruments.)

THE LANCET OFFICE, December 11th, 1884.

Date.	Barometer reduced to Sea Level and 32° F.	Direction of Wind	Dry Bulb.	Wet Bulb.	Solar Radiation in Vacuo.	Max. Temp. Shade.	Min. Temp.	Rain fall.	Remarks at 8.30 A.M.
Dec. 5	29·78	W.	41	39	..	54	39	..	Bright
" 6	29·71	W.	54	52	..	55	40	·43	Raining
" 7	29·87	S.W.	50	47	..	56	46	·02	Cloudy
" 8	29·81	W.	50	49	..	51	49	·35	Overcast
" 9	29·95	S.W.	42	41	..	43	41	·05	Raining
" 10	30·15	W.	43	41	..	52	35	·12	Bright
" 11	29·65	W.	49	46	..	51	41	·11	Cloudy

Notes, Short Comments, and Answers to Correspondents.

It is especially requested that early intelligence of local events having a medical interest, or which it is desirable to bring under the notice of the profession, may be sent direct to this Office.

All communications relating to the editorial business of the journal must be addressed "To the Editor."

Lectures, original articles, and reports should be written on one side only of the paper.

Letters, whether intended for publication or private information, must be authenticated by the names and addresses of their writers, not necessarily for publication.

We cannot prescribe, or recommend practitioners.

Local papers containing reports or news-paragraphs should be marked.

Letters relating to the publication, sale, and advertising departments of THE LANCET *to be addressed "To the Publisher."*

ASPIRATOR FOR REMOVING EXUDATIONS FROM THE TRACHEA AFTER TRACHEOTOMY, &c.

To the Editor of THE LANCET.

SIR,—A very simple and inexpensive form of aspirator has occurred to me for the removal of diphtheritic and croupy exudations from the trachea after tracheotomy, and indeed, I think it might be used in many other cases in which aspiration is required. I claim for its merits, first, that it is easily procured, in fact, it may be extemporised on the spot; secondly, that it is efficacious; and thirdly, that it may be constructed by any instrument maker and supplied by him at a very small cost, as no air-pump, syringe, or other costly mechanism is required. The apparatus consists of an exhausted bottle, and I think my method of obtaining the desired vacuum is unique. We have in the usual quart aerated water bottle with syphon tap, as supplied by most chemists and aerated water dealers, all the apparatus that is required, with the exception of a foot or two of rubber tubing, and two or three metal unions made to fit the different sized tracheotomy tubes. The rubber tube is slipped over the tap and one of the unions is affixed to its other end. To produce the vacuum, the bottle is immersed in a large tin saucepan or other suitable vessel, containing sufficient warm water to cover the bottle up to its neck. The water, with the bottle thus immersed, is then brought to the boiling-point, by placing the vessel over the fire, the syphon tap being kept open to allow of the escape of the expanded air. The bottle is retained in the boiling water until air ceases to escape from the tap; this may be ascertained by occasionally closing and re-opening the tap; when air ceases to escape, the bottle is removed from the boiling water, and placed aside to cool, with the tap closed. When it has cooled a vacuum will have formed possessing great suction power. This may be tested by immersing the open end of the rubber tube in water and then opening the tap, when the water will rush into the bottle with great force and will about three parts fill it. Here then we have a ready and simple method of clearing the trachea by aspiration. The apparatus can be made by anyone in a case of emergency, with an ordinary bottle having a closely fitting perforated cork through which passes a piece of glass tube; perhaps even a Maw's feeding bottle might answer the purpose.—I am, Sir, yours truly,

R. W. SUTTON BARRACLOUGH, M.D.

Dulwich-road, Herne-hill, S.E., Dec. 1st, 1884.

Mrs. Hoare.—The letter was received and referred to in an annotation in our issue of Nov. 29th.

CHARBON.

To the Editor of THE LANCET.

SIR,—The publication in your last issue of two cases of charbon with a reference to the practice of excision induces me to ask the attention of your readers to the excellent account of this disorder, and its successful treatment by excision, given at page 371 in Travers' work on Irritation. The date of the cases there mentioned is 1796.

I am, Sir, yours faithfully,

Old Burlington-street, W., Dec. 5th, 1884. J. W. HULKE.

INSPECTOR-GENERAL CORBIN.

WE have been asked to publish the following:—

"M.G.O." "Asst.-Adj.-Gens. Office, R.G.M., 20th Nov., 1884.

"The Lieutenant Governor regrets to find himself under the obligation of accepting Inspector-General M. A. B. Corbin's application to be relieved from active duties with the militia force. Commencing as an assistant surgeon in the Artillery Brigade, he terminates his services as the head of his department, embracing altogether a period of more than half a century, during which he has always ably and punctually carried out the duties of the medical department. His Excellency feels convinced that the militia force will join with him in thanking Inspector-General Corbin for his long service, and in wishing him health and happiness in his retirement. Inspector-General Corbin's name will be placed on the unattached list of officers. "By order,

"JAMES MCCREA, Lt.-Col., Assist. Adjt. Genl. R.G.M.

"Inspector-General Corbin, Medical Department, R.G.M."

L.R.C.S.—For "port wine stains" do nothing. For NAVUS on the back, if capillary, apply primarily nitric acid; if venous, either tie, or excise and unite the edges of the wound.

Quis Separabit.—The letter is too long to admit of insertion.

MATERNAL IMPRESSIONS.

To the Editor of THE LANCET.

SIR,—The following case of unconscious maternal impression, or perhaps of mere coincidence, may be worthy of mention.

On the 4th inst. I attended Mrs. S—— in her fifth confinement, and delivered her of a mature male child, who had a harelip, with unequal sides, on the left side, and a double cleft palate. None of her previous children had this deformity, nor was there any history of it in the family. It appears that at the latter end of February or the beginning of March she saw a brother, a soldier home from India on furlough, who had recently been bitten in the upper lip by a dog, and who then had a scar on the left side of the upper lip. At the time of hearing of the accident she was rather upset, though she did not see her brother till after the wound had healed. She had, of course, no idea of its affecting her child, as she could only have been in her first month of pregnancy at the time, and she says she had no thought of the kind subsequently. In most cases of maternal impression which I have referred to I find that the mother was conscious of the impression, and fearful of the result. I have ascertained that there is no doubt about the facts of this case. I am, Sir, yours obediently,

T. GODFREY PARROTT, M.R.C.S.

Cottage Hospital, Bournemouth, Nov. 19th, 1884.

Mr. Senior.—1. The subscription to the New Sydenham Society is one guinea per annum.—2. Apply to a medical bookseller.

MEDICAL HEROES.

To the Editor of THE LANCET.

SIR,—On Feb. 3rd, 1883, died John Topham Gadsby of this place, a M.D., and a Medalist of the London University. His death was caused in precisely the same manner as that of Dr. Rabbeth, and was all the more mournful on account of his leaving a young widow, to whom he had been married only a few months. After performing tracheotomy on a child in the Workhouse Infirmary who was suffering from diphtheria, the tube became blocked, and he at once cleared it with his mouth, contracted the disease, and died. All this duly appeared in the obituary column of THE LANCET at the time; but I am unaware that the slightest notice was taken of the sad event by the members of his University, the profession, or the public.

Now, what I wish to elicit is, the reason why the untimely death of one of these gentlemen should be most justly and generously met by marks of universal condolence and sympathy, while the memory of the other has been treated with cold and heartless neglect. Is it too late to do something, or anything?—Your obedient servant,

Bath House, Mansfield, Nov. 27th, 1884. G. WHITEFIELD SPARKE.

THE TITLE OF BACHELORS OF MEDICINE.

G.—The card looks very well as it is. If others like to accord the higher title to the holders of this goodly degree, well and good; there is no compulsion. But the Bachelor himself shows good taste in using the ordinary title of a gentleman.

"LANCING THE GUMS."

To the Editor of THE LANCET.

SIR,—What would the shade of Marshall Hall say if he could hear the discussion on gum lancing which has lately been recorded in THE LANCET? His dictum was (and I believe still a sound one), it was better to lance a child's gums 100 times unnecessarily than to omit it once if necessary; and I am sure many older practitioners who have followed his teaching can testify that, whether *post* or *propter*, a child almost immediately after its gums are lanced often passes from a distressing state of convulsions, screaming, or feverishness to calm, refreshing sleep, and comparative health and comfort. From the good I have seen apparently follow from lancing the gums I certainly should feel I had not done my duty to a child in convulsions during dentition if I neglected to examine its mouth, and relieve tension by scarifying the gums, cutting off, as Marshall Hall says, the first link in the chain of reflex irritation. I am, Sir, yours faithfully,

Dec. 2nd, 1884. M.R.C.S. OF 1845.

TANNERS AND THE CHOLERA.

THE Vienna *Tanners' Gazette* states that an Italian contemporary devoted to the leather trade calls attention to the fact that the tanners in Italy have been spared from the ravages of the cholera epidemic recently rampant in that country, and that in all towns where tanneries existed the plague was of a less virulent character. It has been noticed that streets in which there are tanneries have been altogether spared, whilst other parts of the same town were terribly visited by the cholera.

THE UNITED KINGDOM BENEVOLENT ASSOCIATION.

To the Editor of THE LANCET.

SIR,—At this season of the year all the leading journals liberally open their columns to the appeals of our public charities; and as I feel sure that THE LANCET, the leading journal of the medical profession, will not close its columns to a Christmas appeal on behalf of the widows and daughters of its less fortunate members, I bring under its notice the claims of a society which hitherto has made no special appeal to the medical profession, although it has for many years past been extending to them substantial help. By the report which accompanies this you will observe that the United Kingdom Benevolent Association grants annuities of £20 and £25 to persons of the upper and middle classes in reduced circumstances who are above forty years of age, and who are unable from bodily infirmities to earn their own livelihood, and affords temporary help to candidates in urgent distress. I need hardly say that the applicants for the help of the Society are quite as numerous from the medical profession as from any other class. It has granted annuities of £20 and £25 each to nearly forty widows and daughters of medical men, of whom twenty-nine are now living, and are supported by its bounty at a cost to the Society of nearly £600 a year. There are twenty-three medical candidates awaiting election, among whom are many ladies who are in extreme distress, one of them, the widow of an army surgeon, being paralysed and in great want. Since 1877 the Secretary of the Temporary Relief Fund has made an annual appeal to its subscribers for a Christmas gift for these poor ladies, which each year has been most kindly and liberally responded to.

It has been my privilege to have been associated with this Society from its foundation; and I think the medical profession owes it a debt of gratitude, which I believe they would be glad to have the opportunity of discharging, and which it cannot better repay than by responding liberally to this appeal for a Christmas gift for our distressed candidates.

Particulars of the twenty-three medical cases may be ascertained at the Offices of the Society, 4, Berners-street, Oxford-street, W., by any person who may be willing to assist them in their election or otherwise. Last year our Christmas appeal brought us nearly £800.

I am, Sir, yours truly,

Dec. 9th, 1884. M.D., A MEMBER OF THE COMMITTEE.

Mr. D. S. Donovan, B.A.—We fear there is no chance of our correspondent getting a qualification from any European medical authority. But does he for such work really much require it? People living "hundreds of miles" beyond qualified medical assistance soon discover the aptitudes of missionaries, and will not be slow to recognise any medical faculties they possess, without inquiring closely as to authorisation. Our correspondent might put himself in communication with the Edinburgh Medical Missionary Society.

UNSOUND MEAT.

To the Editor of THE LANCET.

SIR,—I observe in your issue of the 28th ult. an article on the subject of "Unsound Flesh," in which you refer to a recent case where a medical man and a veterinary surgeon gave contradictory evidence. This, Sir, is not the first case of the kind which has occurred, and it is always a matter of grief to me when I see the details of such cases made public, as I am strongly of opinion that the two professions should work shoulder to shoulder in this matter and urge upon the Legislature the necessity of putting it on a proper footing. At the first meeting of the British National Veterinary Medical Association, held last year, in London, I read a paper on this subject, and at the meeting of the same Association, held in July last, in Manchester, I had the pleasure of opening the discussion on the paper written by Professor McCall, and at the close of the discussion I succeeded in getting the unanimous consent of the meeting to a series of propositions on the subject which I was privileged to bring forward. Moreover, in my work on "The Four Bovine Scourges," published in 1879, I dealt fully with the matter of meat inspection, as I have also done on a number of public occasions. The matter as it at present stands is in a very unsatisfactory, and I may say dangerous position, as no definite or authoritative rules are laid down for the guidance of inspectors of meat, and I hope the time is not far distant when a joint commission of medical men and veterinary surgeons will be appointed to consider the subject with a view to the inauguration of legislative action by the Government. I, for one, shall be happy to assist in bringing about such a desirable consummation, and I trust your powerful aid will not be wanting.

I am, Sir, your obedient servant,

THOMAS WALLEY, Principal.

Royal Veterinary College, Edinburgh, President of the R.C.V.S.
Dec. 9th, 1884.

COCA PASTILS.

WE have received from Mr. Martindale, New Cavendish-street, a sample of pastils prepared from erythroxylon coca. They are intended for the temporary relief of hunger, thirst, fatigue, exhaustion, distaste for food, or nervous depression and weak digestion. One or two of the lozenges are to be allowed to dissolve slowly in the mouth every two or three hours.

THE NATIONAL HOSPITAL FOR THE PARALYSED AND EPILEPTIC.

To the Editor of THE LANCET.

SIR,—The time is approaching when it will be necessary to consider how to utilise fully the opportunities afforded by our new building for the study and treatment of nervous disorders upon a scale not hitherto attempted in this or any other country. The Board of Management are naturally anxious that the new hospital shall not prove an addition to those institutions whose ward space is in excess of their means to make use of it, and they desire that with as little delay as may be a large proportion of the beds—all, if possible—shall be put at the service of the staff. The institution has always been "National" in something more than its name. Even with the limited accommodation of the old buildings it has dealt with patients from nearly a thousand cities, towns, and villages of the kingdom. Many of these places, although rich and important, have contributed nothing towards the outlay incurred; and experience shows that when it is a question of obtaining funds not for a special and conspicuous purpose, but year by year to be expended upon maintenance, a national institution is prejudiced by its want of locality. We now seek to minimise this disadvantage, and, if possible, to overcome it. A hospital whose wards contain at one time patients from a dozen different counties and fifty different towns is really a group of little local hospitals collected under one roof, and it appears eminently reasonable to invite those districts which send patients to assist towards their cost. A proposal which has received the sanction of the Board of Management is calculated to bring about some such co-operation, and greatly to increase the value of the new hospital. It contemplates the allotment of beds to certain districts, either for a specified number of years upon a contribution to the capital funds, or year by year upon an annual subscription. The contributions suggested are £500 for the allotment of a bed for fourteen years, or an annual donation of fifty guineas. It is needless to say that these figures represent a much less sum than the actual cost of the bed, while, as the only object in view is to increase the hospital's power of usefulness, the accommodation for patients from contributing districts will not be limited to the reserved beds, but applicants will possess the same chance of admission as heretofore to any bed which may be vacant. In these days of hospital penury the idea may be commended to any metropolitan institution in similar case, though none other stands so isolated as this, and to local philanthropists desirous to do their poor neighbours a service in which all the world may share. Of course, a patient will be admitted only in conformity with rules. He must be suitable for gratuitous treatment, and his fitness medically considered will be judged of by the physicians of the hospital, either upon personal examination, or upon information supplied in regular form by a local practitioner. If the beds were in some way affiliated to the provincial institution, possibly local interest, both philanthropic and professional, would be stimulated, and valuable means might be obtained for the diffusion of knowledge in regard to diseases of the nervous system. Finally, were the idea generally adopted, we need no longer fear that for lack of means our new wards will fail to be fully utilised, to the detriment of the sick poor and the no less certain loss to science and humanity at large.—I am, Sir, your faithful servant,

B. BURFORD RAWLINGS, Secretary.

National Hospital for the Paralysed and Epileptic (Albany Memorial), Queen-sq., Bloomsbury, Nov. 24th, 1884.

"THE SEVERE, OR SO-CALLED 'UNCONTROLLABLE,' VOMITING IN PREGNANCY."

To the Editor of THE LANCET.

SIR,—The paper of Dr. Grailly Hewitt on the above subject, read before the Obstetrical Society and published in your last issue, suggests to the mind of a once busy practitioner a remedial means of which the late Dr. Marion Sims was, I believe, the author. This consists in applying to the cervix uteri once a day a solution of the nitrate of silver, of the strength of from twenty to sixty grains to the ounce, lengthening the intervals as relief is obtained. Cases will have occurred to many wherein no deviation from health could be diagnosed, and where the newly active organ might only affect the stomach through its "reflexes." In this class, as well as in those wherein a more tangible cause was obvious, the course mentioned has many times quickly and completely relieved my patients when artificial abortion appeared imminently necessary, and, stranger still, the relief was generally permanent, the operations rarely requiring repetition. Certainly, many anxious practitioners will find room for such a simple means before resorting to the severer operation. My own chosen method was to employ a solution of silver in equal parts of pure sweet spirits of nitre (fresh) and distilled water, painting the whole visible cervix through a speculum, and leaving as a dressing a pledget of absorbent cotton soaked (and then squeezed) in glycerine. I have rarely been obliged to make a fourth application.

I am, Sir, yours faithfully,

London, Nov. 22nd, 1884. M.D. (U.S.A.)

IRREGULAR PRACTICE IN CAPE COLONY.

A VERY sensible article appears in *Port Elizabeth Telegraph and Eastern Provinces Standard* on the harm done by allowing irregular practitioners to carry on practice in remote districts, and advocating the publication of simple instructions by Government for use as first aid in districts where medical men are few. In thinly populated communities doctors are sometimes ten or twenty, or more, miles away from the inhabitants, and a sound set of instructions would be infinitely preferable to a travelling pretender to the art of physic.

ANÆSTHETICS.

To the Editor of THE LANCET.

SIR,—On reading the discussion which has recently taken place at the Medical Society of London on the above subject I was somewhat surprised to find that no mention was made of the hypodermic injection of ether in the case of the circulation or respiration failing; for I have always found this to prove a most speedy and effectual measure in resuscitating the patient when all other methods have failed. The sensation caused by the injection of ether has frequently been described to me by patients as being of a peculiar tingling sensation over the whole body, from the tips of the fingers to the extremities of the toes, thus showing its speedy stimulating action. Perhaps the great drawback to the hypodermic injection is that a suitable syringe is not always at hand the moment it is required. As a *dernier ressort*, however, I am strongly in favour of applying almost scalding water, by means of a flannel, to the forehead. May I mention, by way of conclusion, that I have invariably found the "hot water" application to be invaluable in various cases of syncope, and above all for the most speedy restoration or establishment of the circulation of newly born infants.

I am, Sir, yours truly,

Baron's Court, S.W., Nov. 26th, 1884. R. FITZROY BENHAM.

CYCLING: "THE SWING FRAME."

To the Editor of THE LANCET.

SIR,—From the correspondence I have noticed regarding the liability of cycling to injure the rider owing to the pressure of the saddle, I quite agree with the reply of Mr. Battams as to the very remote chance there is of injury. I think the tricyclist is more subject to this liability than the bicyclist; for it is a well-known fact that the rider is very apt to sit forward on the peak of the saddle when riding a hill. Being a cyclist myself, and finding it of great assistance, I wish to mention an invention which entirely prevents any possibility of injury, and in this hilly locality it is especially useful. I refer to the "swing frame," which by its action depresses the peak of the saddle on a hill, and brings the rider forward over his work. As I can thoroughly recommend its action, and feel sure it prevents what at times may be an injury, I bring it to the notice of your readers. The inventor, Mr. Warner Jones, of 14, Bury-place, Bloomsbury, London, will, I am sure, be happy to explain its action to anyone who writes for information.

I am, Sir, yours faithfully,

Exeter, Nov. 18th, 1884. EDWARD A. BRASK, L.R.C.P.Lond.

"PARTIAL INQUESTS."

To the Editor of THE LANCET.

SIR,—Referring to your article under the above heading in your issue of Nov. 29th, I should like to bring before your notice, and that of your readers, the following case.

On Nov. 27th Charles Henry D ——, aged seventy, was found suspended by a rope round the neck. When found the body was warm. No medical man was sent for. A coroner's inquest was held without medical evidence, when a verdict was returned that deceased committed suicide whilst in an unsound state of mind. The body being warm, is it not possible that under proper treatment death might not have ensued? Again, is there any proof that death was not the result of poisoning, and that the deceased was subsequen tly suspended? I could mention other cases in point; but the above case is in itself sufficiently striking, and shows that "our coroners fail to carry out the provisions of the law."—I am, Sir, yours truly,

WILFRED HOWARD, M.R.C.S.Eng., L.R.C.P.Ed.

Littleport, Isle of Ely, Nov. 30th, 1884.

"STRANGE MIGRATION OF A NEEDLE."

To the Editor of THE LANCET.

SIR,—Dr. Campbell Black's case is replete with interest. It is unusual at the first to feel the needle-*point*, but having done so, and after vain attempts at extraction, he seems to have been well advised in cautioning the patient against following his example lest still "greater injury" might result. After eleven months' journeying through the tissues at the rate of about six inches and a half per mensem, the needle issues at last with out help from the faculty, and lo, the point is quite clear! The point that m ust be clear to everyone but Dr. Black and his lady patient is this, that having entered the *right* thumb, the needle leisurely travelled up one digit and doubled down the next, and that Dr. Black and the lady were left pursuing in unconscious companionship a headlong chase in the direction in which the doctor had felt the needle-point.

I think David Hume would thus have explained away this latest of miracles. I am, Sir, yours obediently,

London, Nov. 10th, 1884. W. MCLAURIN.

PARIS LUNATIC ASYLUMS.

THE Prefect of Paris Police states in his annual report that the total number of lunatics in the asylums belonging to the French capital was 8907 at the beginning of the year, but that it is now over 9500, this large increase being attributed more to the anxiety of relatives to avail themselves of the better accommodation now provided in French asylums than to an actual development of insanity. There is, however, a certain increase of insanity as well, and this is doubtless due to the spread of drunkenness among men, who now form 55 per cent. of the insane, whereas a quarter of a century ago they were only 45 per cent. There are four special asylums for the insane within and outside the walls of Paris. The total estimated expenditure for the current year is £232,000, or £28,000 more than last year. This expenditure is borne in part by the municipality, and in part by the parishes of which the patients are natives, while the Government pays for all insane soldiers, sailors, and prisoners.

ALLEGED DEATH FROM VACCINATION.

To the Editor of THE LANCET.

SIR,—A short time ago you alluded to an inquest in which I was concerned, where the jury returned a verdict of "Death from convulsions arising from vaccination," though the death was undoubtedly due to suffocation.

There are a few lessons to be deduced from the case which, with your permission, I will lay before my professional brethren, for their guidance, should they be placed in the same circumstances as I was.

1. It may be taken as a fact that in future in any case of sudden death in an infant who has been recently vaccinated, an attempt will be made to "hook on" the death to vaccination, if the circumstances can possibly be made to fit in with such a theory. If therefore any medical man be called to such a case, I would strongly advise him to ascertain all the facts as to lymph supply, and the state of the child's health when vaccinated and shortly before its death; and, moreover, to get at these facts directly after the death; for if any sympathising anti-vaccination agent interviews the mother, the facts (?) will be told in a very different manner to what they are, at the time the case first comes under notice, and before any leading questions have been put or suggestions made.

2. If the question be brought up at an inquest, and an adverse verdict proposed, the medical man must refuse to accept it, without a post-mortem be made, and must ask the coroner to adjourn the inquest for that purpose. In my case the jury wished to bring in a verdict of "Death from blood-poisoning, arising from vaccination," though not one particle of evidence had been adduced to prove it, and the subsequent post-mortem disproved it.

3. Let the coroner appoint the gentleman who is to make the post-mortem, and not allow the jury to do so; at the same time the medical man must insist on being present, and have with him, if he wish, some independent skilled witness—some pathologist of known repute for example.

4. The medical man must be on his guard about another matter—viz., that if the case be one of convulsions, an attempt will be made to show that these were due to the irritation of the arm. In my case there was no evidence to show that convulsions existed, and four of us gave a positive opinion to that effect.

I am, Sir, your obedient servant,

The Oaklands, Upper Clapton, Nov. 29th, 1884. CHAS. T. AVELING.

THE DUCT OF GARTNER.

To the Editor of THE LANCET.

SIR,—I have recently observed that in many English works the name of the anatomist who first described the more or less persistent traces of the efferent duct of the Wolffian body, as seen in adult female mammals, is constantly spelt "Gaertner." That anatomist was not a German, but a Dane, and in Danish the word, whether a proper name or signifying "gardener," is spelt "gartner." The work which he wrote on the above subject is entitled, "Anatomisk Beskrivelse over et ved nogle Dyr-Arters Uterus undersögt glandulöst Organ." It was published in Copenhagen in 1822. I am, Sir, yours truly,

Seymour-street, W., Nov., 1884. ALBAN DORAN.

VICTORIA DENTAL HOSPITAL, MANCHESTER.

THE dental specialists are still given to advertise very much. A handbill has reached us advertising the above hospital, with all the surgeon's names on the back. This is not a commendable or professional procedure.

TO AMUSE THE CHILDREN.

To the Editor of THE LANCET.

SIR,—Would any of your readers kindly lend a magic lantern for one evening to amuse some country school children. It would be to them much like the visit to Drury-lane is to the London arabs. I would, of course, pay all expense of carriage, &c., and be responsible for any injury that might happen to the lantern. It would have to burn oil.

I am, Sir, yours obediently,

South Hayling, Hants. PERCY POPE, M.R.C.S.

ERRATUM.—The age of the boy referred to in Mr. Douglas's letter on "Supposed Cancer of the Rectum," published in our issue of Nov. 29th, p. 983, was fourteen years, not nineteen.

COMMUNICATIONS not noticed in our present number will receive attention in our next.

COMMUNICATIONS, LETTERS, &c., have been received from—Lady John Manners; Sir Spencer Wells, London; Dr. Clifford Allbutt, Leeds; Mr. Hulke, London; Messrs. Birn Brothers, London; Dr. Dyson, Sheffield; Mr. R. J. Shepherd, London; Mr. R. Senior; Dr. Eshelby, Frocester; Messrs. Boake and Co., Stratford; Mr. L. Humphry, Cambridge; Dr. Tucker Wise, Maloja; Mr. P. Buchanan, Coleford; Mr. G. R. Jesse, Henbury; Mr. R. F. Benham, London; Mr. Lane, Birkdale (W.C.); Mr. Spencer Watson, London; Mr. Hodgkinson, Manchester; Dr. Caddy, London; Dr. Maunsell, Bath; Dr. Prosser James, London; Mrs. Hoare; Mr. J. W. Beck, London; Mr. W. A. Thomson, Ampthill; Surgeon-Major Gribbon; Dr. Macnaughton Jones, London; Dr. Bell Taylor, Nottingham; Dr. Campbell Munro, Nottingham; Mr. Dutch; Mr. Clouting, Norwich; Dr. Fenwick, London; Mr. T. Blair, Leeds; Mr. Samuels-Donovan; Dr. MacAlister, Cambridge; Mr. Startin, London; Mr. P. Pope, South Hayling; Mr. S. Snell, Sheffield; Dr. C. Pope, London; Mr. Stenson Hooker, London; Mr. Radcliffe, Blackpool; Mr. Gamgee, Birmingham; Mr. Townsend, Liverpool; Dr. Fry, Swindham; Messrs. Kegan Paul and Co., London; Dr. Adam, West Malling; Mr. Alden, Shirley; Mr. Jones; Mr. Price; Mr. Powne; Messrs. Ellis and Co., London; Mr. Stanford, London; Dr. Bryden Hill; Dr. Butcher, Birkenhead; Mr. Douglas, London; Mr. Waterfield, Stonehouse; Mr. C. E. Steele, Liverpool; Prof. Walley, Edinburgh; Mr. Hamilton, Hawick; Dr. Burdon Sanderson, Oxford; Mr. Hemsted; Mr. Bush, Bristol; Mr. Cluckie, Greenock; Dr. Isambard Owen, London; Mr. Clifford Smith, London; Mr. C. W. Harvey; Mr. Hulme, Birmingham; Mr. Yeoman, Sheffield; Mr. Ransom, East Dereham; Messrs. Oppenheimer and Co.; Mr. Birchall, Liverpool; Mr. Langdale, London; Mr. Frampton, Weston-super-Mare; Dr. Juler, London; Mr. Elliott, Carlisle; Mrs. Pratt, Cardiff; Mr. Livy, Clifton; Mr. Marmaduke Shield, London; Mr. Atkin, Sheffield; Passed in Surgery; Medicus, Mottram; Quis Separabit; Traveller; Enquirer; An Old Assistant; J. R.; An Irish Bull; One who hopes for Reform; A Provincial Surgeon; Physician; J. S. C.; H.

LETTERS, *each with enclosure*, are also acknowledged from—Dr. Trimmer; Dr. M. Mackenzie, London; Mr. Hutton, Ormskirk; Mrs. Clark, Tunbridge Wells; Miss Sidney, Brighton; Dr. Gross; Miss Harris, Leeds; Messrs. Smith and Son, Birmingham; Mr. Webb, Bury; Dr. Walter, Midhurst; Mrs. Rogers, Truro; Mr. Armstrong, Manchester; Mr. White, Bayswater; Dr. Williams, Talgarth; Mr. Turner, London; Mr. Mackay, Edinburgh; Mr. D'Orsey; Mr. Walker, Accrington; Dr. Husband, Edinburgh; Dr. McEnery; Miss Johnston, Southampton; Mr. Sergeant; Mr. Harding, Rotherham; Mr. Husbands, Notts; Mr. Coste, St. John's-wood; Dr. Hill, Oldham; Mr. Parrott, Hayes; Miss De Luttichau, Holloway; Mr. Warburton, Trehechert; Mr. Oglesby, Bury; Mr. Jones, Romford; Mr. Pollock, Wallingford; Mr. Davies, Brighton; Mr. Richardson; Miss Pyne, London; Dr. Heming, Pontypool; Sphenoid, Kensal-green; Middleton, Scarboro'; Specialty; F. S. A., Wye; W., Halifax; F R.C.P., St. Servan; Beta, London; W. T. C.; Polin, Cardiff; M.R.C.S., York; Medicus, Minchinhampton; One of Them; Matron, Liverpool; Yorkshire; Consilium; H. H., Brighton; Physician, Darlington; Lady Superintendent, Cambridge; M. M. L.; Medicus, Glasgow; G. H.; B. B. B.; M.R.C.S.

Dean Forest Guardian, Liverpool Evening Express, Alnwick and County Gazette, Christian World, Annual World, Temperance Record, Islington Gazette, &c., have been received.

Medical Diary for the ensuing Week.

Monday, December 15.

ROYAL LONDON OPHTHALMIC HOSPITAL, MOORFIELDS.—Operations, 10½ A.M. each day, and at the same hour.
ROYAL WESTMINSTER OPHTHALMIC HOSPITAL.—Operations, 1½ P.M. each day, and at the same hour.
ST. MARK'S HOSPITAL.—Operations, 2 P.M., and on Tuesdays at the same hour.
HOSPITAL FOR WOMEN, SOHO-SQUARE.—Operations, 2 P.M., and on Thursday at the same hour.
METROPOLITAN FREE HOSPITAL.—Operations, 2 P.M.
MEDICAL SOCIETY OF LONDON.—Sir Andrew Clark, Bart.: A Case of Relapsing Pneumonia in an Aged Man, with Some Observations on the Nature of the Disease.

Tuesday, December 16.

GUY'S HOSPITAL.—Operations, 1½ P.M., and on Friday at the same hour. Ophthalmic Operations on Mondays at 1.30 P.M., and Thursdays at 2 P.M.
ST. THOMAS'S HOSPITAL.—Ophthalmic Operations, 4 P.M., and on Fridays at 2 P.M.
WESTMINSTER HOSPITAL.—Operations, 2 P.M.
WEST LONDON HOSPITAL.—Operations, 2.30 P.M.
PATHOLOGICAL SOCIETY OF LONDON.—Dr. Wilks: Intestinal Obstruction produced by Gall-stones.—Dr. Carrington: Thyroid from a case of Exophthalmic Goitre.—Mr. Rose and Dr. Sainsbury: Gunshot Injury of the Brain.—Dr. Hale White: The Sympathetic System, from Four Cases of Diabetes; Patent Ductus Arteriosus (card); Abnormality of Lung.—Mr. Godlee: Fracture of Skull in an Infant followed by the Effusion of Serous Fluid.—Mr. Lane: Fracture of First Rib.—Dr. Norman Moore: Hæmorrhage into Substance of Liver.—Mr. Pepper: A Case of Malignant Disease of the Spermatic Cord.—Mr. D'Arcy Power (for Dr. Mackinder): A Pouched or Duplicate Bladder (card).—Mr. G. R. Turner: A Drawing of Congenital Deformity of the Perineum (card).

Wednesday, December 17.

NATIONAL ORTHOPÆDIC HOSPITAL.—Operations, 10 A.M.
MIDDLESEX HOSPITAL.—Operations, 1 P.M.
ST. BARTHOLOMEW'S HOSPITAL.—Operations, 1½ P.M., and on Saturday at the same hour.—Ophthalmic Operations on Tuesdays and Thursdays, at 1.30 P.M.
ST. MARY'S HOSPITAL.—Operations, 1½ P.M.—Skin Department: 9.30 A.M., on Tuesdays and Fridays.
ST. THOMAS'S HOSPITAL.—Operations, 1½ P.M., and on Saturday at the same hour.
LONDON HOSPITAL.—Operations, 2 P.M., and on Thursday and Saturday at the same hour.
GREAT NORTHERN CENTRAL HOSPITAL.—Operations, 2 P.M.
SAMARITAN FREE HOSPITAL FOR WOMEN AND CHILDREN.—Operations 2½ P.M.
UNIVERSITY COLLEGE HOSPITAL.—Operations, 2 P.M., and on Saturday at the same hour.—Skin Department: 1.45 P.M., and on Saturday at 9.15 A.M.
ROYAL FREE HOSPITAL.—Operations, 2 P.M.

Thursday, December 18.

ST. GEORGE'S HOSPITAL.—Operations, 1 P.M.
ST. BARTHOLOMEW'S HOSPITAL.—1½ P.M. Surgical Consultations.
CHARING-CROSS HOSPITAL.—Operations, 2 P.M.
CENTRAL LONDON OPHTHALMIC HOSPITAL.—Operations, 2 P.M., and on Friday at the same hour.
NORTH-WEST LONDON HOSPITAL.—Operations, 2½ P.M.

Friday, December 19.

ST. GEORGE'S HOSPITAL.—Ophthalmic Operations, 1½ P.M.
ROYAL SOUTH LONDON OPHTHALMIC HOSPITAL.—Operations, 2 P.M.
KING'S COLLEGE HOSPITAL.—Operations, 2 P.M.
SOCIETY OF MEDICAL OFFICERS OF HEALTH.—7.30 P.M. Mr. Henry E. Armstrong: The Status of the Medical Officer of Health as a Criterion of Sanitary Progress.

Saturday, December 20.

KING'S COLLEGE HOSPITAL.—Operations, 1 P.M.
ROYAL FREE HOSPITAL.—Operations, 2 P.M.

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